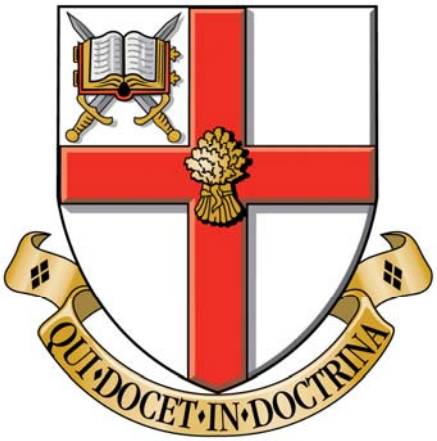

University of Chester

Enquiry as a Pedagogical Approach within the Context of Primary Geography

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Abstract

This dissertation explores interpretations of enquiry within the context of primary geography and aims to justify it as a pedagogical approach.

The study aimed to:

- analyse archival and policy documentation relating to geographical enquiry;
- relate 'geographical enquiry' to key philosophical and pedagogical movements and theory;
- explore Primary School Teachers' (PS Teachers) ideas about geographical enquiry at Key Stages 1 and 2;
- explore Initial Teacher Training Tutors' (ITT Tutors) ideas about geographical enquiry at Key Stages 1 and 2;
- consider implications in relation to policy formulation and classroom practice at Key Stages 1 and 2.

Archival searches dating back to 1900 and a review of the literature revealed considerable evidence of enquiry-based approaches to teaching and learning in school geography. From the late 1960s, the notion of 'geographical enquiry' became more widely recognised and accepted as a pedagogical term.

Despite 'geographical enquiry' featuring within government documentation since the advent of the National Curriculum, the literature suggests varying interpretations and constructs of enquiry at classroom level. It was found that references to 'geographical enquiry' within government documentation were not always clear or consistent. It was also found that the enquiry approach can be justified in relation to theories of learning such as constructivism and socio-constructivism.

The composite view of an Ideal Enquiry –based Learning Task (IELT), based on the responses of both ITT Tutors and PS Teachers, presents a definition of enquiry which can be justified in relation to the literature and which relates to the findings outlined above. The significant difference between the two user groups, relates to the PS Teachers' lower response rates and confidence levels when asked about 'geographical enquiry' compared with the ITT Tutors.

This study has important implications for policy documentation and classroom practice. There is a need for clarity with respect to the meaning and justification of enquiry as a pedagogical approach, in addition to more detailed guidance on how it can be effectively constructed and managed at classroom level.

This work is original and has not been submitted previously in support of any degree qualification or course

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List of Abbreviations

DES	Department for Education and Science
DFE	Department for Education
DfEE	Department for Education and Employment
GA	Geographical Association
IELT	Ideal Enquiry – based Learning Task
IELTI	Ideal Enquiry – based Learning Task Inventory
ITT Tutors	Initial Teacher Training Tutors
NCG	National Curriculum Geography
PoS	Programme of Study
PS Teachers	Primary School Teachers
QCA	Qualifications and Curriculum Authority
SCAA	School Curriculum and Assessment Authority

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Introduction

Background

'Enquiry' is a term which is generally perceived as referring to the process of focused questioning and research, with a view to reaching a reasoned conclusion. Within the context of the National Curriculum for Geography (for England) (NCG), 'enquiry' is specifically referred to within the Programme of Study (PoS), but it has been found that interpretations of the term vary (Garner, 2002b; Roberts, 1998a, 1999 & 2003).

This dissertation will focus on understandings of the term 'enquiry' within the context of NCG, specifically within Key Stages 1 and 2. The main purpose of the National Curriculum is to 'set out a clear, full and statutory entitlement to learning for all pupils' (Qualifications and Curriculum Authority/ Department for Education and Employment (QCA/ DfEE), 1999, p.3). For this to be realised at classroom level, teachers need to have a shared understanding of the content of the NCG and meaning of terms used within the PoS.

Within this dissertation, understandings of the term 'enquiry' within the context of NCG will be explored across two different user groups. The groups comprise classroom teachers and initial teacher education tutors. Three small-scale studies have already revealed that indeed, teachers have varying ideas as to what the term 'enquiry' actually means within the context of geographical education (Roberts 1998a, 1999 & 2003). These findings are also supported by research undertaken by Garner (2002b), whose initial study (see Appendix A) revealed 'varied and often quite non-specific definitions of enquiry' (Garner, 2002b, p.35).

This dissertation focuses specifically on the responses by Initial Teacher Training Tutors (ITT Tutors) and Primary School Teachers (PS Teachers), with regard to the interpretation of the term 'geographical enquiry'. There is a scarcity of research on 'geographical enquiry', particularly at Key Stages 1 and 2. The main professional journals for geography teachers at

primary and secondary levels ('Primary Geographer' and 'Teaching Geography' respectively) have published many articles which focus on the theme of enquiry, but most of these lack any substantial research or empirical basis (Barratt, Burgess and Cass, 1997; Bridge, 1992, 1993,1995; Cartmel, 2000; Cook and May, 1993; Hudson, 1992; Jackson, 1998; King, 1999; Leat, 1999; Lewis, 1994; Martin, 1999; Purves and Tanner, 1996; Robinson, 1995; Scoffham, 1991; Storm, 1989; Thompson, 1999).

As stated earlier, it would seem that only a few empirically-based studies have been published which relate to this area of study. Firstly, there are a number of reported research projects on enquiry in geography by Roberts (1998a, 1999 & 2003), the earliest of which (1998a) focused on 'the nature and extent of enquiry at key stage 3'. This was funded by QCA and was later developed into a discussion paper (QCA, 1998), within which case study material (Key Stages 1-3) is outlined and discussed. Two further research projects were then undertaken which focused on progression in geographical enquiry and varying constructions of geographical enquiry at classroom level (Roberts, 1999 & 2003). These will be discussed in Chapter 3.

Overall the main finding of this series of small studies (Roberts, 1998a, 1999, 2003) is that 'geographical enquiry' is interpreted and constructed in different ways at classroom level. This is supported also by the work of Garner, 2002b (see Appendix A). During 2002, Garner asked geography education tutors to identify their 'Ideal Enquiry - based Learning Task' (IELT) and to identify which features this would comprise. It was found that there was a wide range of perceived characteristics of an IELT and therefore the task of producing a concise, composite view through the process of content analysis was complex.

Roberts (2003) relates her findings to the fact that 'National Curriculum documents are inevitably limited in what they convey' (Roberts, 2003, p.12), and in turn attributes this to four factors; the degree to which legislation is limited in how it can describe what 'geographical enquiry' means in practice, the lack of consensus within the Geography Working Group about the

importance of enquiry , political constraints relating to ideology and, finally, limitations of space within the policy document itself (Roberts, 2003). In terms of my own professional experience, which includes working with QCA on the National Curriculum and related non-statutory guidance, I also believe this to be the case.

Research Paradigms

In terms of research paradigms, this dissertation is characterised by both qualitative and quantitative approaches. The two are seen as complimentary in that:

> all methods of social science research deal with qualities, even when the observed qualities are counted. Similarly, all methods of analysis use some form of number, such as 'tend, most, some, all, none, few..' (Gorard, 2003, p. 10).

In short, the distinction between qualitative and quantitative is a false 'dualism' (Frazer, 1995 as cited by Gorard, 2003).

Within this dissertation, both quantitative and qualitative methods are used to analyse text and survey responses. For example, content analysis is used within this dissertation to analyse survey responses. There is much debate as to whether this is a qualitative or quantitative method (Berg, 2004), since, typically qualitative data is analysed using quantitative techniques. Textual analysis is another method used here and similarly combines approaches; some forms of counting are used to quantify references to the term 'enquiry'.

The main aim of this dissertation is to explore understandings of the term enquiry within the context of the NCG at Key Stages 1 and 2. Different groups will be consulted so that views can be compared and implications for national policy and classroom practice considered.

More specifically, the dissertation aims to:

- analyse policy documentation relating to enquiry
- analyse archival evidence relating to enquiry
- explore PS Teachers' ideas about geographical enquiry at Key Stages 1 and 2
- explore ITT Tutors' ideas about geographical enquiry at Key Stages 1 and 2
- relate 'enquiry' to key philosophical and pedagogical movements and theory
- consider implications in relation to classroom practice at Key Stages 1 and 2
- consider implications in relation to the concept of a National Curriculum and policy formulation

The methods used within this dissertation combine both qualitative and quantitative approaches as identified earlier, and specifically comprise:

Figure 1: Summary of Research Methods

Focus	**Research Method**
Analyse policy documentation relating to enquiry	Textual analysis of official documents and records (Berg, 2004)
Analyse archival evidence relating to enquiry	Analysis of references to enquiry within geography journals dating from 1900 (Berg, 2004)
Explore PS Teachers' ideas about geographical enquiry at Key Stages 1 and 2	Survey analysed using statistics (Gorard 2003) and content analysis (Berg, 2004; Garner, Norton, Asquith, Beaumont & Caldecott, 2002a; Garner 2002b)
Explore ITT Tutors' ideas about geographical enquiry at Key Stages 1 and 2	Survey analysed using content analysis (Berg, 2004; Garner et al. 2002a; Garner 2002b) Comparisons with the above views of teachers using content analysis

Chapter 2 identifies and justifies the sample and methodology in more depth. Chapter 3 represents both empirical findings as well as being a review of the literature. Within this section,

relevant statutory and non-statutory government policy documentation will be described and analysed. Perspectives of geography specialists in relation to 'enquiry', both historical and contemporary, will also be explored.

Within Chapter 4, results of the PS Teachers' and ITT Tutors' surveys, will be detailed, analysed and summarised.

Chapter 5 represents an aggregation of all chapters within the context of a critical discussion. Additionally, the notion of 'enquiry' will be linked to key philosophical and pedagogical movements and theory. For example, the work of Vygotsky, Piaget and the 'thinking skills movement' pioneers (Feuerstein, 1980; Lipman, 1980; de Bono 1992; Leat, 1998).

Finally, conclusions will be drawn and implications for national policy and classroom practice identified.

Research Design and Pilot Study

Summary of Methodologies and Triangulation

> 'Triangulation was first used in the social sciences as a metaphor describing a form of multiple operationalism or convergent validation'
>
> (Campbell, 1956 as cited by Berg, 2004, p.5).

As described here, triangulation essentially refers to the process of using multiple data-gathering techniques in relation to a single concept or phenomenon, with a view to enhancing the validity of research findings. Within this dissertation, several data gathering techniques have been used within the context of exploring the notion of 'enquiry' (see Figure 2 below). Methods used range from textual analysis of policy documentation and archival evidence, the administration of a questionnaire, and the use of an inventory.

Figure 2: Summary of Research Methods

Focus	Research Method
Analyse policy documentation relating to enquiry	Textual analysis of official documents and records (Berg, 2004)
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Explore PS Teachers' ideas about geographical enquiry at Key Stages 1 and 2	Survey analysed using statistics (Gorard, 2003) and content analysis (Berg, 2004; Garner et al., 2002a; Garner, 2002b)
Explore ITT Tutors' ideas about geographical enquiry at Key Stages 1 and 2	Survey analysed using content analysis (Berg, 2004; Garner et al., 2002a; Garner, 2002b) Comparisons with the above views of teachers using content analysis

The Research Design

In relation to the method of textual analysis, data was gathered from two sources:

(i) Relevant statutory and non-statutory documentation published since the Education Reform Act (1988).

(ii) With reference to the four journals of the Geographical Association (*The Geography Teacher, Primary Geographer, Teaching Geography and Geography*), all articles making some reference to enquiry within the title, (dating back to1900).

In terms of the two surveys (questionnaire and inventory), the research sample is as follows:

(i) PS Teachers (Geography Co-ordinators) – questionnaire

(ii) ITT Tutors (primary geography) – inventory

Overall, therefore, there are four sources of data which inform this study.

Data source 1: Statutory and non-statutory documentation (published by DES/ DFE/ DfEE/ QCA/ SCAA) on the subject of primary geography (since 1988)

A range of statutory and non-statutory documentation, specifically referring to the subject of primary geography (published since 1988), was scrutinised through the process of textual analysis.

Data source 2: Journal articles (published by the Geographical Association) on the subject of geographical enquiry (since 1900)

With reference to the four journals of the Geographical Association (*The Geography Teacher, Primary Geographer, Teaching Geography and Geography*), a search was undertaken using an

online database of all journal titles published since 1900. Those journal article titles that made some reference to enquiry were accessed and critically analysed.

Data source 3: PS Teachers (Geography Co-ordinators): Questionnaire

The sample of 50 primary teachers was randomly selected. A list of Partnership schools at the University of Chester was requested and the last 50 schools on the list were sent a questionnaire, covering letter and stamped addressed envelope (see Appendix 1 & 2).

23 out of 50 schools responded, giving an acceptable response rate of 46% (Tilley & Norton, 1998; Garner et al., 2002a).

The Questionnaire

The main aim and focus of the questionnaire was to explore teachers' views about enquiry-based learning. A range of independent variables were also measured and defined (see Figure 3) and will be discussed in relation to the dependent variables within the final discussion (see Chapter 5).

The questionnaire was structured as follows:

Figure 3: Summary of Structure of Questionnaire

Variable(s) - status	**Evidence within questionnaire**	**Related questions within questionnaire**
Independent variables	✓ Subject's occupation ✓ Initial Teacher Education - nature of (Cert. Ed., B.Ed., etc.) ✓ CPD/ Masters Level, certificated work in Primary Geography ✓ Experience of being a Geography Co-ordinator in a primary school ✓ Coverage of primary geography curriculum and time allocation	A range of pre-coded, closed & open-ended questions were used in relation to the independent variables (Oppenheim, 1992 as cited by Flowerdrew and Martin, 1997) *Question numbers 1-12*

Dependent variables	What is 'geographical enquiry'?	For the study of views of the meaning of 'geographical enquiry', an 'Ideal Enquiry-based Learning Task Inventory' (IELTI) was used for *question 13*. (Tilley & Norton, 1998; Garner et al., 2002a; Garner, 2002b)
	Confidence in knowing what 'geographical enquiry' means and how it works in the primary classroom	Confidence in knowing the meaning of 'geographical enquiry' was measured using a semantic differential (or attitude battery) within *question 14*. (Oppenheim, 1992 as cited by Flowerdrew and Martin, 1997)

Pilot Study

The questionnaire was piloted with six tutors working in initial teacher education (primary), all of whom had been teachers prior to their current appointment.

As a result of this small pilot study, minor modifications were made, as described below:

1. Originally, question 5a read as follows:

'Which is the most important factor and why?'

However, it was felt that the former part of this query was answered within the preceding ranking exercise and thus, the wording was changed to:

'Please comment'.

2. Originally, question 13 read as follows:

'13. What do you understand by the term 'geographical enquiry'.

Please list 6 characteristics that would describe your ideal enquiry-based geographical learning task/ activity

For example, 'Field-based', 'Involves pupils in asking and answering geographical questions', ' Is supported by a range of high quality geographical resources'....etc.'

However, it was felt that the requirement to list 6 characteristics could be relatively time consuming and complex for a busy and potentially non-specialist classroom teacher to complete, so the number of characteristics required was changed to 4. This reasoning also applies to why a complex Inventory was not included here (ie. including a requirement to also identify characteristics of a '**Not** Ideal Enquiry- based Learning Task'- as was included for the ITT Tutors).

Data source 4: ITT Tutors (Primary Geography): Inventory

The sample of ITT Tutors was based on a list of Initial Education Tutors (Primary) within the UK, received from a colleague well known nationally for his research into Primary Geography (Simon Catling; Oxford Brookes). The 'Ideal Enquiry - based Learning Task Inventory' (IELTI) was administered electronically, by e-mail.

15 out of 40 academics responded, giving an acceptable response rate of 37.5% (Tilley & Norton, 1998; Garner et al., 2002a).

The 'Ideal Enquiry - based Learning Task Inventory'

The IELTI (see Appendix 3) is an adaptation of the Ideal Self Inventory (ISI), a tool previously used within the context of psychotherapy (Norton, Morgan & Thomas, 1995) and then adapted for use within educational contexts (Tilley & Norton, 1998; Garner et al., 2002a). The Inventory generates a number of responses relating to perceived 'ideal' and 'non ideal' (positive and negative) characteristics of an Ideal Enquiry- based Learning Task (IELT).

These responses were then analysed using the process of content analysis so as to present a version of the IELTI which represents the ITT Tutors' composite view.

The process of content analysis involved grouping similar responses and subsequently developing categories. Characteristics were repeatedly assigned to these approximate categories,

which in turn were then honed, refined and merged appropriately. Characteristics could not be assigned to more than one category. The total number of characteristics (90), were reduced to 16 (8 'ideal' and 8 'non-ideal') on the basis of this process and frequencies within categories. Subsequent inter-rater reliability tests yielded a 'level of agreement' of 82% (See Chapter 4 for details).

Pilot Study

The pilot study (see Appendix 4) worked well and results were subsequently published (Garner, 2002b). The only modification made was to target primary specialists only, rather than primary and secondary colleagues due to the limited scope of an M. Ed. Study.

Enquiry Learning: Surveying the Field

This research is centrally concerned with developing an empirical basis to inform the discussion of 'enquiry' as a teaching and learning method within the context of primary geography.

This literature review will examine perspectives of geography specialists in relation to 'enquiry', both historical and contemporary. References to 'enquiry' within statutory and non-statutory curriculum documentation relating to the NCG at Key Stages 1 and 2, will also be explored and discussed. Finally, enquiry will also be considered in relation to learning theory.

1. Enquiry: Perspectives of Geography Specialists

Historical Overview 1900-1970

The Nature of Geography

The evolution of geography as a subject has been viewed as being inextricably linked to the development of society; a subject designed to serve the political agenda and to perform related socio-economic functions. For example, it has been argued that school geography helped to promote acceptance of territorial acquisition and the concept of imperialism (Eliot Hurst, 1985). The evolution and nature of geography as a school subject is an important consideration when exploring how it might be most effectively taught in school.

Definitions of geography as a school subject can vary significantly and this has often been viewed as problematic in terms of making appropriate pedagogical decisions. 'The difficulty of teaching geography, (is due) .. to the vagueness of the concept of the subject..' (March, 1914, p.297).

As early as 1901, it was described as 'dull and uninteresting..a dreary recitation of names and statistics..of little use except, perhaps, in the sorting office of the post office' (Rooper, 1901, p. 4). However definitions are varied, as described in due course (Ballyntyne, 1922; Jones, 1925; Unstead, 1928; Haddon, 1948).

The lack of consensus with regard to the nature of the subject is related, in part, to geography being 'in the modern sense .. the youngest of the school subjects'(Carpenter, 1918, p. 233) and this presents potential challenges in terms of effective teaching (March 1914, Chisholm, 1908).'If we are to learn the best method of approach we must know where we want to arrive' (Chisholm, 1908, p.170).

An interesting view, for example, of what constitutes geography is the model of the subject as an 'Associated Science' (Rooper, 1901). This definition presents geography as a subject which links other sciences (as diverse as statistics, biology and astronomy) 'which are otherwise dissociated' (Rooper, 1901, p.6). It can thus be seen as an overarching term representing an association of various sciences, which when studied together, will contribute to a deeper understanding of a particular set of facts.

Geography and 'Enquiry' in Elementary & Primary School Geography

As early as 1918, Carpenter discusses the nature of geography teaching in primary schools and states boldly that *'the third form child is frankly not interested in the lives of others'* (Carpenter, 1918, p.233). Instead, it is the 'world-wide sweep and its encyclopaedic collection of place-names, race-names, facts and formulas' which interests the young mind (Carpenter, 1918, p.234).

Carpenter (1918) emphasizes here the importance of the knowledge base of Geography; in particular, names and facts traditionally learnt by rote. Geographical Association (GA) (1963), in contrast to Carpenter (1918), when reporting on a one-day conference for primary geography teachers, advocates a topic-based curriculum and states that, through a cross-curricular approach, 'far more real geography is likely to be learnt and fully understood than was ever achieved in the traditional 'chalk and talk' lesson' (GA, 1963, p.421).

Ballyntyne (1922) describes a scheme of work in an Elementary School as being essentially place based, but with integration of theory through 'special lessons on physical laws' (Ballyntyne, 1922, p.214). This notion bears a resemblance to the use of 'models' advocated by specialists some time later (Crisp, 1969; Walford, 1969; Cole & Benyon, 1970). References to questioning and research are limited here (Ballyntyne, 1922), but geography is closely linked to history as reflected in the corresponding units of work.

The problems associated with teaching geography are acknowledged from an early stage, and the importance of subject knowledge questioned in terms of primary school teaching:

> I must not give the impression that training in geography is all that is required. The geography teacher should be a teacher first, a geographer second...I would say that pedagogy is fully as important as geography
> (Unstead, 1928, p.319)

It is useful to reflect on how school geography has been planned and taught over time, and to discuss the extent to which enquiry methods are really a modern phenomenon or whether such methods have always been a part of geography curricula. The idea that children need to be in control of their personal learning is not new; 'no boy likes to be taught, every boy likes to learn' (Fairgrieve, 1936, p.1).

In reflections of 'what the primary school geography teacher should know and be' it was suggested that the teacher should 'encourage children to talk, and (dangerous as it may seem) to ask questions about the subject' (Unstead, 1928, p. 315). An early experiment in a Junior School found that pupils were encouraged to undertake independent 'enquiry'. They had to identify a focus for research and were required to use a number of sources to actually present a lesson on their chosen topic to the rest of the class. This was with a view to

'(encouraging) the children to take a sufficiently *active* part' in the lesson (Cullis, 1919, p.27). The project also reported a number of benefits, not least in terms of the enthusiasm of those involved. A later study had similar outcomes, finding that when the 'class literally teaches itself' (Haddon, 1948, p.190) the benefits including increased motivation, proficiency in the use of sources and an increase in pupil questioning about geographical topics (Haddon, 1948). Small scale experimentation in elementary schools also revealed that teaching seemed to be most effective when pupils' work was framed by the teacher but was self directed in terms of choice of resources and methods of approach (Jones, 1925). The approach detailed in this case study is very similar to the model of a 'framed enquiry' which has been presented more recently (Roberts,1987; Roberts, 2003).

The shift away from 'chalk and talk' or highly didactic methods for primary aged children continued and within a report commissioned by the GA in 1964 (based on the structure of the Hadow Report of 1931), it advised that the 'curriculum ... be thought of in terms of activity and experience rather than of facts to be stored' (GA, 1964).

Methods of Teaching Geography (Pre-1970): Primary and Secondary School Geography

Various methods of teaching in geography have been identified and outlined since the early twentieth Century.

As early as 1914, March highlights the importance of teaching facts so that 'the educated adult..(can)..arrange facts to illustrate a new principle, and, from known principles..deduce facts' (March , 1914, p.298). This basically refers to a scientific approach, through which theories are developed, which can then be used to describe and explain specific phenomena.

The teaching of geography continued to change in this direction, moving increasingly towards 'the use of models and the employment of a problem-solving or 'hypothetical' mode

of instruction' (Crisp, 1969, p.11). This gradual change in teaching methods represented a shift away from learning facts to learning how to learn and be a young geographer:

> Perhaps the most important of these factors are recent advances in geographical research., the precedent set by American curricular developments, a growing understanding of the nature of scientific inquiry, and a belief that, in our rapidly changing world, styles of learning are ultimately more important than facts. (Crisp, 1969, p.11)

Crisp (1969) goes on to explain how 'hypothetical' modes of teaching can help pupils to be involved in problem-solving and asking questions and that this can motivate the learner as '(they become) aware of alternative answers' (Crisp, 1969, p. 12). This method is in contrast to 'expository methods' which 'favour rote learning' (Crisp,1969, p.12) and the accumulation of geographical facts and concepts. Within the context of hypothetical modes of instruction, Crisp (1969) also describes how geographical 'models' can be either representative of the hypothesis itself, or when considered alongside other models can aid the development of new hypotheses or models. Models are generalizations and fundamental concepts, according to Crisp (1969); 'Models, then, are not meant to be ends in themselves but rather a means of understanding and memorizing generalities about the reality they represent' (Crisp,1969, p. 13).

An example of a model is given as 'a land use pattern..(on) an imaginary farm (cocoa-producing village in Ghana), based on an idea by J.P.Cole' (Crisp,1969, p.13). Other examples from this series include; 'co-ordinates in a town', 'a detour around a creek', 'relationships between crops and land' (Cole & Beynon, 1970). These models within this series are shown as illustrations and maps, with corresponding classroom-based activities.

The advantages of using hypothetical or problem-solving methods of teaching (which may include the use of models) are outlined in relation to the work of Bruner (Crisp, 1969). Firstly, Crisp argues that greater intellectual potency is achieved as children learn to use hypotheses or models to solve problems. They can progressively 'relate new instances to the framework of fundamental ideas' (Crisp, 1969, p.13). He also argues that this method facilitates a shift from extrinsic to intrinsic rewards by giving the learner the opportunity to 'experience success and failure not as reward and punishment, but as information' (Crisp, 1969, p.12). In other words, using this method helps children to develop confidence in their ability to learn, rather than them being overly concerned with what might be seen as correct or incorrect. The third advantage noted relates to conservation of memory and how 'discovery of things for oneself' (Crisp, 1969, p.13) can lead to more personal and relevant storage of cognitive information; and that this in turn can facilitate ease of retrieval later (Crisp, 1969).

Walford (1969) in his paper on 'operational games and geographical teaching', likens 'operation games' to the 'family of models and simulations which have recently been suggested as tools for the fruitful understanding of the subject in an increasingly complex environment' (Walford, 1969, p.34). Each 'game' comprises a generalisation (or model, hypothesis) and case study specific detail; 'thus the 'canvas' of the game serves both as study material in itself and and as the basis for transfer of knowledge to use in other situations' (Walford, 1969, p. 38). Walford claims that operational games help to make sense of increasingly complex data sets, enabling generalisations and hypotheses to be stated. Like many before, Walford (1969) emphasizes the benefits of the problem-solving process in comparison to just learning the facts. Similarly to Crisp (1969), he relates his work to that of Bruner and argues that such teaching methods will increase motivation and participation of young learners (Walford, 1969).

Historical Overview Post 1970

Developments since 1970: Primary and Secondary School Geography

During the 1970s problems with the geography curriculum were identified, particularly in terms of '6th Form' geography. In response to this, Naish (1976) outlined a rationale and proposal for a new schools curriculum development project in Geography, which is now commonly known as the '16-19 Geography Project'. It was thought that the problems with Geography at 'Advanced Level', were due to innovation at Key Stage 3 and an increasing range of courses being offered. The constantly changing examination system, and increasing diversity within the pupil population in terms of ability, were also identified as key factors (Naish, 1976).

'One of the biggest impacts made by the curriculum development activities was in the area of pedagogy' (Rawling, 2001, p. 38). Indeed it was at this time that 'geographical enquiry' began to emerge as a pedagogical term within the context of the subject of Geography.

There were a number of Schools Council geography projects at this time, many of which became associated with the enquiry approach; for example, Geography for the Young School Leaver Project (1970) , the 14-18 Geography Project (1970) and finally, the '16-19 Geography Project' (1976).

The '16-19 Geography Project' (Naish, 1976) set out to develop a clearer understanding of geography as a subject and to develop skills and techniques to help to make geography more 'scientific' in approach. The project was based at the London Institute and aimed to enlist the help of teachers, trainees and other professionals in examining the 16-19 curriculum and in developing and evaluating new curriculum resources. This shift towards a more scientific approach in Geography became more formalised at this time through the work of the project, but also represented a natural development of earlier work which focused on

the use of 'models', hypothesis testing and 'operational games' (Crisp, 1969; Cole & Beynon, 1970; Walford, 1969).

The curriculum framework which subsequently developed offered 'an integrative approach to the subject, a route for enquiry learning' (Naish,1985, p. 99), which was described as follows;

> students investigate the problems and issues in an active, enquiry-based style, clarifying questions, selecting, collecting and analysing appropriate data, producing and communicating their findings in a variety of ways....The approach recommended is that study should begin with the recognition and clarification of a question, or set of questions, issues or problems which arise from the interaction of people in their environment (Naish, 1985, p.107)

This pedagogical approach was described as 'a distinctive approach to geography' (Naish, 1985, p.107) and was to be increasingly referred to as 'geographical enquiry' or 'enquiry-based learning' (Rawling, 2001). In essence, it is similar to earlier work (Crisp, 1969; Beynon and Cole, 1970; Walford, 1969) as the implication here is that learning is characterized by hypothesis testing and/ or development in relation to a particular set of facts.

In general, the following ideas about enquiry were introduced by the various Schools Council projects: that enquiry can be classroom-based as well as field-based, that enquiry represents an approach to learning and a process through which geographical concepts and content can be studied, that enquiry represents a shift from didactic methods to an approach with increases pupil participation and control, that enquiry should involve the use of a wide range of resources and skills (Roberts, 2003).

The idea that pupils should start with a question or problem which is then researched and where findings are communicated, is referred to and developed within subsequent National Curriculum documentation (Department for Education and Science (DES), 1991; Department for Education (DFE), 1995; (Department for Education and Employment) DfEE/ QCA, 1999).

'Two necessary corollaries of a commitment to enquiry-based learning were changes in assessment and to the role of the teacher' (Rawling, 2001). Following on from the Schools Council projects, the DES (1986) published a discussion paper to explore teaching methods and assessment in relation to 'enquiry-based learning', the aims of which were seen as relating to the '(development) of a range of skills and competencies necessary to carry out geographical enquiry and to interpret geographical information' (DES, 1986, p.2). It should be noted, however, that methods in geography which could also be described as 'enquiry-based' date back to at least the early 1900s (Rooper, 1901), as discussed previously, and therefore the extent to which 'enquiry-based learning' represented an innovation in pedagogy at the time of the '16-19 Geography Project' (Naish, 1976), for example, is questionable.

A useful discussion of 'geographical enquiry' as a teaching style is that by Roberts (1987). Using a framework based on the work of Barnes et al., Roberts (1987) identifies three styles of 'enquiry': closed, framed and negotiated, and explains the classification is based on 'the amount of control teachers maintain over subject content and activities' (Roberts, 1987, p. 238). Roberts claims that this framework can be applied to geography in terms of raising questions, collecting and interpreting data and drawing conclusions. Roberts (1987) goes on to illustrate each of the styles, 'closed' representing the most teacher-controlled and led, where outcomes may be pre-determined by the teacher and not negotiated by the children. A 'framed' enquiry has more scope for pupils to raise their own questions and make decisions, but still with a reasonable steer from the teacher. This would seem an appropriate style for primary aged children as the teacher needs to ensure that the enquiry is sufficiently geographically focused within the context of time constraints and limited resources. A

'negotiated' enquiry can be developed within a broader topic of study chosen by the teacher, within which pupils can take increasing responsibility for specific research foci and methodologies.

As Roberts (1987) notes, the teaching styles within this framework ('the participation dimension') are in a constant state of flux, and change and the styles adopted by the teacher during any one lesson may shift along the continuum (of 'closed', 'framed' and 'negotiated') depending on learning objectives, resources being used, ability of individual children and other significant variables.

Roberts carried out several small research projects which focused on geographical enquiry at Key Stage 3 (1998a, 1999 & 2003). The first of these was a focused study for QCA on the nature and extent of enquiry at Key Stage 3. This was later published (QCA, 1998) and this discussion document is analysed and discussed within the next section.

Findings from this project were also reported in 'Teaching Geography' (Roberts, 1998a). Roberts' sample comprised six secondary schools across four authorities. Geography teachers were interviewed and schemes of work scrutinised. Roberts was interested in exploring teachers' understandings of the term 'geographical enquiry' and the sorts of classroom or field-based examples given. She found overall that there was an association of 'enquiry work' with 'work done outside of the classroom' (Roberts, 1998a, p. 164). Also, that across different categories, which were formulated based on the teachers' responses, fieldwork, surveys, library research, structured coursework and decision making activities, '...each of the schools used some of the categories exemplified..but none of the schools used all of them' (Roberts, 1998a, p.165). Basically, therefore, despite following the same statutory guidelines, interpretations of 'enquiry' were different. Whilst this is a relatively small-scale study, from which it is difficult to make significant generalisations, it does seem to suggest that perceptions and understandings of geographical enquiry may vary significantly within and across schools and authorities.

Summary

- ***Historically there has been a lack of consensus with regard to the nature of the subject of geography.***
- ***Historically, in part due to the above, there has been a lack of consensus with regard to how to teach school geography effectively.***
- ***Within the context of 'early' primary and secondary school geography (pre-dating 1970), there is evidence of enquiry-based approaches to teaching and learning.***

  The two main innovations in geography teaching are the use of models and the employment of a 'problem solving' or 'hypothetical' mode of instruction. Neither of these trends are entirely new. Geography teachers, although they perhaps do not often regard them as such, use models every day in their work (Crisp, 1969, p.11).

- ***Since the 1970's, the changes in geography teaching (particularly at secondary level) summarised as 'geographical enquiry' have been described as of important 'significance' (Rawling, 2001, p.38) in the development of effective geography teaching and learning.***

  Enquiry has been described as:

  a range of teaching methods and approaches by which the teacher encourages students to enquire actively into questions, issues and problems rather than merely to accept the conclusions, research and opinions of others (Rawling, 2001, p.38).

- ***The outcomes of a series of small research projects on geographical enquiry at key stage 3 (Roberts 1998a, 1999, 2003) do seem to suggest that teachers' interpretations and constructions of 'geographical enquiry' vary at classroom level, despite there being a statutory order within which 'enquiry' is defined.***

2. Enquiry and Theories of Learning

Enquiry is generally perceived as being related to the theory of constructivism (Roberts, 2003). This means that enquiry is seen as a process through which pupils can 'learn about the world by actively making sense of it themselves', in contrast to models of learning where knowledge is seen as being 'transmitted to us ready-made' (Roberts, 2003, p. 27).In terms of constructivism, learning is about constructing meaning in relation to what is already known. All learners understand the world in different ways due to varying social and cultural factors and contexts. Because of this phenomenon, new information has to be accommodated and assimilated within an individual's existing constructs, as opposed to be being 'bolted on' as ready made knowledge (Barnes and Todd, 1995, as cited by Roberts, 2003)

Piaget makes the distinction between 'learning in the narrow sense' and 'learning in the specific sense' (Ginsburg and Opper, 1988).

> For example, in school geography, the child learns the names and locations of the states and their capitals. This kind of learning is obviously *specific* to particular cultural contexts...by contrast, learning in the broad sense, or development, involves the acquisition of general thought structures which apply to many situations (Ginsburg and Opper, 1988, p.209)

Piaget's notion of 'learning in the specific sense' and 'learning in the broader sense' relate very clearly to discussions earlier which explore methods of teaching geography. For example, the use of 'models' in teaching geography (March, 1914, Crisp, 1969, Beynon and Cole, 1970, Walford, 1969) is clearly akin to 'learning in the 'broader sense'. The idea is that hypothetical or problem-solving methods in teaching and learning help pupils to develop, use and modify information and related generalisations, with a view to exploring geographical questions and issues. In contrast to this, and in line with Piaget's notion of 'learning in the

specific sense', others see the teaching of geography as being centrally concerned with memorisation and the 'world-wide sweep and its encyclopaedic collection of place-names, race-names, facts and formulas' (Carpenter, 1918, p.234). In terms of current geography curricula, both of these types of learning - acquisition of specific knowledge and the development of the processes of learning about geographical phenomena - are evident (DfEE/ QCA, 1999).

Bruner's ideas about learning are not dissimilar to those described above. He describes the 'act of learning' as involving 'three almost simultaneous processes' (Bruner, 2003, p.48). Firstly, 'acquisition' of new information (Bruner, 2003) can be equated with Piaget's 'specific learning', and secondly, 'transformation' of knowledge (Bruner, 2003) is similar in concept to Piaget's 'learning in the broader sense'. According to Bruner, transformation is about 'the process of manipulating knowledge to make it fit new tasks' (Bruner, 2003, p.48). This is interpreted as meaning the application and development of existing knowledge and generalisations to make sense of new facts, problems and issues. Bruner goes on to identify the third process of learning as being 'evaluation', which essentially refers to the process of reflection of one's learning and the extent to which knowledge has been appropriately applied and manipulated.

Social constructivism, of which Vygotsky is a key proponent, emphasises the significance of others in helping us to understand the world. Vygotsky identifies the 'Zone of Proximal Development' as a model representing the level of achievement that can be reached unaided, compared with the higher levels of achievement facilitated through mediation by teacher or peers.

> '(the Zone of Proximal Development is...the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under

adult guidance or in collaboration with more capable peers' (Vygotsky, 1978 p.86)

This assistance by others in pupils' learning is often referred to as 'scaffolding' (Daniels, 2001). The teacher (for example) can help 'a child or novice to solve a problem, carry out a task or achieve a goal which would (otherwise) be beyond his unassisted efforts' (Woods (1976) as cited by Daniels, 2001, p.107). 'Scaffolding' helps to simplify the role of the learner rather than the task, through structured help by more capable others.

The implications of constructivism for pupils, focusing on the work of Piaget, Bruner and Vygotsky, include the need to take prior learning into account and to provide pupils with the opportunity to relate new knowledge to what is already known. In addition to this, the significance of others in helping to re-shape knowledge, should also be taken into account.

More recent pedagogical innovations within the geography curriculum have focused on 'thinking skills', a movement which really started to have an impact around the 1980s and links to the work of many important pioneers (Feuerstein, Rand, Hoffman, and Miller (1980); Lipman (1980); do Bono (1992); Leat (1998)). Both the notion of geographical enquiry and the thinking skills movement represent a shift towards more progressive educational ideology (Rawling, 2000), as both aim to develop increased autonomy in learners, as learners.

There is considerable overlap between 'thinking skills' and 'enquiry', and it could be argued that they are in essence, the same thing or one a part of the other. However, they are so often referred to separately within educational contexts and literature, including within the NC itself. As described in the diagram below, the process of learning and the role of language and discussion, are central to both thinking skills and enquiry.

Figure 4: Thinking Skills and Enquiry

'Thinking Skills' (Feuerstein (1980), Lipman (1980), do Bono (1992))	*'Geographical Enquiry'* (National Curriculum)
Focuses on process of learning in a way that helps learners to reach higher levels of achievement	Focuses on the process of learning by following an enquiry route and by reflecting on methods, sources and outcomes in an on-going way. This process has the potential to inform future enquiries.
'Thinking skills' pioneers stress the importance of language, articulation and discussion ('thinking together')	Within the context of 'geographical enquiry', group work, discussion, reflection and decision making are all identified as important features.

In line with the argument that the boundaries between the two may be artifical, Roberts conceptualises enquiry as encompassing all thinking skills identified within the National Curriculum, rather than either being a separate entity. She critically considers the list of five thinking skills within the National Curriculum:

> What is odd about the list is that all the other skills listed - information processing, reasoning, creative thinking and evaluation – are all needed for different aspects of enquiry work. Enquiry skills are not a sub set of thinking skills, enquiry includes them all (Roberts, 2003, p. 24)

The infusion of 'thinking skills' into Geography by Leat (1998), describes 'thinking skills' activities as 'strategies' which are basically 'developed to make lessons more interesting' (Leat, 1998, p.1). However, there is very little explanation and justification within this recent text, in terms of connecting thinking skills to learning theory and the history of geographical education.

Summary

The process of enquiry can be justified in relation to these theories of learning (constructivism) and particularly because enquiry focuses on the higher order thinking skills within the cognitive domain (as identified by Blooms (as cited in Child, 1981). This means that rather than just focusing on the relatively low status of the process of knowledge acquisition, an enquiry approach facilitates the development of deeper understandings, the ability to apply and analyse information, and to synthesise and evaluate. All of these more complex and advanced levels of cognitive activity are seen as key in helping the pupil to reach higher levels of achievement.

3. Enquiry in the National Curriculum for Geography (KS1 & 2): statutory requirements and non-statutory guidance (1990-2000)

Statutory documentation: Geography in the National Curriculum (England) March 1991 (DES)

The first official reference to geography and enquiry within national, statutory documentation is within the National Curriculum of 1991. At both Key Stages it is stated within the programme of study that 'enquiry should form an important part of pupils' work in geography..'(DES, 1991, p.31, 35). At Key Stage 1 only, it states that 'pupils should be encouraged to ask geographical questions, *for example, 'why is this place like it is?'*, (DES, 1991, p.31) whereas at both Key Stages pupils are required to 'select (relevant) information' (DES, 1991, p.31, 35) to support their studies. This is interesting in the light of subsequent, non-statutory guidance which implies that one perceived aspect of progression in geographical enquiry is the increasing autonomy of and pupils' ability to, ask geographical questions (School Curriculum and Assessment Authority (SCAA), 1997a; QCA, 1998; DfEE/

QCA, 1999); and that at Key Stage 1 children are more likely to respond to geographical questions set by the teacher than to formulate or pose their own (DFE, 1995).

Within this document, there are relatively few references to 'geographical enquiry' and it seems to have a low profile overall. Apart from the brief reference to enquiry within the programme of study (identified above), no other reference to enquiry is made within any of the Attainment Targets or the remainder of the programme of study.

Statutory documentation: Geography in the National Curriculum (England) January 1995 (DFE)

Within the revised National Curriculum of 1995 enquiry is referred to again, but in a different way. According to the statutory order, pupils at both Key Stages have to be given the opportunity to 'focus on geographical questions' (DFE, 1995, p.2, 4) and within the programme of study a methodology for enquiry is implied. At Key Stage 1 it is stated that pupils should be given opportunities to 'observe, question and record, and to communicate ideas and information' (DFE, 1995, p.2) and at Key Stage 2, pupils should 'observe and ask questions about geographical features and issues, collect and record evidence to answer the questions, analyse the evidence, draw conclusions and communicate findings' (DFE, 1995, p.4).

The progression implicit in these statements is interesting as the main difference in enquiry methods for children at Key Stage 1 (as compared with Key Stage 2) is that they are not required to formally 'collect' data, 'analyse the evidence' or 'draw conclusions' in a focused way. It could be argued that these latter aspects are essential components of the enquiry process at all levels and should instead be represented in a differentiated form. For example, children at both Key Stages are capable of undertaking simple fieldwork which involves them in the collection of data and the formulation of a conclusion. Progression within this document therefore, seems to be perceived as relating to the number of skills or

processes rather than to the academic level of content being investigated using the enquiry process.

Enquiry is also referred to within all Level Descriptions (Levels 1-5 being most relevant to Key Stages 1 and 2). Interestingly, geographical skills, (DFE, 1995, p.2, 4) which feature within both programmes of study, (Key Stages 1 and 2) are only first mentioned in the context of enquiry within the Level 3 statement - 'They use skills and sources of evidence to respond to a range of geographical questions' (DFE, 1995, p.8). The Level 5 descriptor again reveals the perception of progression in enquiry as being incremental, in terms of skills and capabilities, rather than about increasingly complex content. For example, the first reference to 'presenting information' (DFE, 1995, p.8) is made here despite the requirement to present and communicate findings at both Key Stages. The progression in geographical skills and aspects of enquiry cannot easily be identified and tracked through this hierarchy of 'levels'. The perceived progression also conflicts with earlier documentation (DES, 1991).

Statutory documentation: Geography in the National Curriculum (England) March 1999 (DfEE/ QCA)

The National Curriculum of 1999 represents the outcome of a more radical modification of statutory requirements. Although such legislation cannot stipulate precisely how a subject should be taught in schools, the new Order does address the idea of enquiry methods in significantly more detail than previously (DES, 1991; DFE, 1995).

At the beginning of each programme of study it is stated that 'teaching should ensure that geographical enquiry and skills are used when developing knowledge and understanding of places, patterns and processes, and environmental change and sustainable development' (DfEE/ QCA, 1999, p.16, 18). This basically means that enquiry and skills should be developed through all other aspects of each programme of study. The profile of enquiry at this point seems more prominent than before.

In terms of the method of enquiry, this is detailed at the beginning of each programme of study. At Key Stage 1 children should be taught to; 'ask geographical questions..., observe and record..., express their own views about people, places and environments... and communicate in different ways...'(DfEE/ QCA, 1999, p.16). At Key Stage 2 it states that children should ' ask geographical questions... collect and record evidence ..analyse evidence and draw conclusions...identify and explain different views that people including themselves, hold about topical geographical issues...communicate in ways appropriate to the task and audience...' (DfEE/ QCA, 1999, p.18).

These requirements are interesting as to '*observe* and record' evidence is the requirement at Key Stage 1, compared with the implied more formal process of '*collect(ing)* and record (ing) (evidence)' at Key Stage 2. Most research involves some form of observation and focused collection and recording of evidence. At Key Stage 1 for example, the collection of data might involve counting the number of doors/ windows of different houses along one street having first made the observation that housing types vary. Another aspect of the implied progression is that the skills of analysing evidence and drawing conclusions seem to be restricted to the Key Stage 2 programme of study. Continuing with the same example as above, for the activity to be meaningful Key Stage 1 children would need to analyse their findings and draw conclusions about the variety of housing types along the street subsequent to the collection of data. It could be argued that all stages of 'enquiry' are applicable to both Key Stages within the context of differentiated content.

Within the subsequent section of each programme of study, enquiry is linked to geographical skills, and both skills and enquiry are jointly identified as one of the four 'aspects' of geography within the GNC.

Enquiry is again referred to within all Level Descriptions (Levels 1-5 being most relevant to Key Stages 1 and 2). As is the case with previous documentation (DFE, 1995, p.2, 4), skills which feature within both programmes of study (Key Stages 1 and 2) are only first

mentioned in the context of enquiry within the Level 3 statement - ' .....They use skills and sources of evidence to respond to a range of geographical questions..'(DfEE/ QCA, 1999, p.43). The Level 4 descriptor makes no reference to skills or questioning and at Level 5 the first reference to the presentation of findings is made – (pupils are expected to) 'present their findings both graphically and in writing.' (DfEE/ QCA, 1999, p.43). The implication here is that perhaps this process is less important at earlier stages. It could be argued however that data presentation and communication is an essential part of the enquiry process at all levels. For example, children at Key Stage 1 might undertake a simple traffic survey which would then be presented graphically (as a pictograph) to enable them to draw simple conclusions. Therefore, similar to the previous Order, the progression in geographical skills and aspects of enquiry cannot easily be identified and tracked through this hierarchy of 'levels' and thus the extent to which the classroom practitioner would find this useful is certainly questionable.

Non-statutory guidance

Enquiry as a pedagogical approach is not only referred to within legislative, statutory documentation, but is also identified and discussed within various non-statutory publications which have been made available to schools.

Non-statutory guidance: 'Expectations in Geography at Key Stages 1 and 2' 1997 (SCAA)

Within this guidance, SCAA aim to outline expected learning outcomes (in geography) for children at Key Stages 1 and 2 of the National Curriculum. Expectations are linked to Year groups 2,4 and 6 and are grouped within four 'aspects' (SCAA, 1997a, p.6), including: 'places', 'patterns and processes', 'environmental relationships and issues' and 'geographical enquiry and skills' (SCAA, 1997a, p.6).

With particular regard to enquiry and skills, it is stated that by the end of Year 2, children should be able to 'ask and respond to questions about places and topics studied, on the basis of information provided by the teacher and their own observations' (SCAA, 1997a, p.6). Similarly at Year 4, the expectation is that children should 'ask and respond to geographical questions ... in the course of undertaking tasks set by the teacher, and offer their own ideas appropriate to the situation ..' (SCAA, 1997a, p.7). The main difference between these two statements seems to be that Year 4 children are expected to offer more geographically focused, additional ideas and questions to the discussion

By the end of Year 6, the document states that children should have developed further and should be able to 'draw on their own observations and on secondary sources provided, and use their awareness of topical matters to suggest geographical questions and issues which might be studied' (SCAA, 1997a, p.7). The implied progression here is that older children might structure their own questions/ research focus; the questions being drawn from geographical sources and knowledge, thus sharpening the focus of questions in geographical terms. The degree to which children can progress to this degree of autonomy, given that by the end of Year 4 they are still possibly responding to 'tasks set by the teacher' (SCAA, 1997a, p.7), is questionable, and it could be argued that the skill of formulating geographical questions would need to be encouraged and developed from the earliest age for children to be truly autonomous in doing so by Year 6.

This document and the four 'aspects' of geography identified (SCAA, 1997a), was subsequently used as a basis for re-structuring the revised National Curriculum (DfEE/ QCA, 1999).

Non-statutory guidance: 'Geography at Key Stage 2: Curriculum Planning Guidance for Teachers' 1997 (SCAA)

This document was produced with the aim of assisting teachers in planning the geography curriculum at Key Stages 1 and 2. It is suggested that medium term planning grids might be structured using 'enquiry questions' such as 'What are our first impressions if Illam?' and 'How would we travel there?'(SCAA, 1997b, p.4).

Enquiry is very succinctly defined as 'the way in which children ask and respond to geographical questions and follow these up with a sequence of investigation' (SCAA, 1997b, p.3) and the characteristics of enquiry are described as 'likely to be mainly teacher structured at Key Stage 1 and the early years of Key Stage 2, but that there should be opportunities for more independent work in Years 5 and 6' (SCAA, 1997b, p.3).

These definitions seem clearer as features of progression are not tied as closely to ages and stages (as is the case within previous documentation (SCAA, 1997a, DfEE/ QCA, 1999)). For example, children will 'ask and respond (Year 2)' to geographical questions at all levels, not just at Key Stage 1, and that even where pupils are beginning to 'suggest geographical questions (Year 6) ' of their own, they will still be 'undertaking tasks set by the teacher (Year 4)' (SCAA, 1997a, p.6-7).

One of the questionable aspects of this document is the degree to which the suggested use of enquiry questions within planning matrices actually serves to promote enquiry-based approaches to teaching and learning in the classroom. Although the questions may help to focus the teachers' objectives, they do not necessarily ensure that children will be given the opportunity to ask questions and investigate within the context of the activities outlined (SCAA, 1997b).

Non-statutory guidance: 'Geographical enquiry at Key Stages 1-3' 1998 (QCA)

Some of the issues raised above are considered and discussed within this more detailed and comprehensive non-statutory publication on enquiry and geography.

This publication is identified as a 'discussion document' rather than a guidance publication (QCA, 1998) and is divided into five sections which aim to explore:

- Enquiry and the GNC
- *Findings from studies which focus on*
    - planning
    - different types of enquiry
    - assessment
- Issues and questions

Within the introduction, 'geographical enquiry' is described as 'an integral part of the Geography National Curriculum' (QCA, 1998, p.3) and thus its importance is assumed from the outset.

The middle three sections (planning/ different types of enquiry/ assessment), are all described as being based on 'focused studies' (undertaken 1996-7) which investigate how teachers at Key Stages 1-3 respond to the requirement in the National Curriculum to build enquiry into their schemes of work (QCA, 1998).

The first of these three sections based on 'findings', and focusing on planning, raises issues about whether 'the inclusion of questions ... necessarily ensure(s) that enquiry work takes place in classroom...'(QCA, 1998, p.7). Examples of planning where 'questions have influenced everything else in the scheme... pupil activities.. resources.. and (where) questions (are) shared with pupils' (QCA, 1998: 7-8) are drawn from a sample where schools are identified within the acknowledgements section, but not quantified in terms of sample size, method and constitution. However, the inclusion of alternative planning models usefully

illustrates how '(some) schools studied did not use a framework of questions to guide their planning of the geography curriculum yet they incorporated elements of enquiry in their planning framework' (QCA, 1998, p.11). The question of whether any of these models actually promote enquiry in the classroom is still open to debate.

The next section based on 'findings' focuses on types of enquiry and interestingly identifies (but does not quantify) the range of responses from teachers regarding their perceptions of enquiry as 'being based mostly on first-hand or secondary data' (QCA, 1998, p.13). For example, fieldwork and surveys versus use of secondary sources and problem-solving activities in the classroom (QCA, 1998). The implication of these findings is that teachers may not have a shared view of what enquiry means and may have interpreted the National Curriculum in different ways - some linking the approach more closely to fieldwork and outdoor projects, others relating it more generally to thinking and problem solving skills/ activities set within the classroom.

The third section based also on 'findings', focuses on assessment and related statements from earlier documentation (DFE, 1995; SCAA, 1997a). These have already been analysed and discussed.

The final section is probably the most interesting as it raises issues for discussion which are most pertinent to this study. For this reason, selected discussion questions identified within this document will be recorded here and some of these issues will be addressed within the main body of this study.

The first point raised is regarding the nature of progression in enquiry, which is described here as having the following characteristics:

> increasingly challenging areas of content... shift in question focus (observation to theory).. increasing range of data.... increasing range of techniques and skills.. increasing accuracy of measurement and presentation..

> increasing ability to explain and substantiate.. increasing ability to identify and analyse range of different attitudes and values.. increasing independence of pupils in identifying questions, in selecting evidence, in deciding how to present data and in reaching and communicating conclusions... (QCA, 1998, p.45).

This definition of progression in enquiry, seems to differ to that within earlier documentation (SCAA, 1997a; DfEE/ QCA, 1999). It is interesting that content complexity is highlighted first, rather than the number of different enquiry skills expected to be used (although this is subsequently identified as a characteristic).

The second point raised within the 'issues and discussion' section of this paper (QCA, 1998), relates to different interpretations of enquiry work and views relating to whether all geographical work should be enquiry-based. Important issues are also raised about teachers' varied perceptions of enquiry in terms of it being field-based and / or class-based, for example. This is an interesting point which relates directly to this study as it highlights the different interpretations of the term 'enquiry' by teachers, therefore hints at a potential discrepancy between rhetoric and practice.

The final point considers the degree of pupil involvement in geographical enquiry and the extent to which progression is characterised by an increase in pupil autonomy.
As stated earlier, it should be considered whether this means an increased likelihood and ability to ask questions and undertake research, or whether it is more closely linked to an increase in the geographical relevance and complexity of these questions/ tasks. Finally, the summary of questions for discussion identified within this publication is particularly relevant to this study as it focuses on enquiry-based learning, and identifies implications for teaching and learning:

If the key questions on a theme or place are written by the teacher in a scheme of work, what scope is there for pupils to identify the key geographical questions?

Which classroom activities encourage pupils to ask questions?

How can pupils be given opportunities to identify evidence needed in geographical enquiry work?

What kinds of choices can be given to pupils in presenting their findings?

To what extent can different levels of support be given to different pupils working in the same class?

How can textbooks be used appropriately to support framed enquiry activities?

When is it appropriate to tell pupils exactly what to do?

To what extent should teachers allow pupils to make mistakes and/ or inappropriate decisions?' (QCA, 1998, p.51)

Non-statutory guidance: National Scheme of Work for Geography (KS1 and 2) Update 2000 (DfEE/ QCA) - Teacher's Guide

This document was produced with a view to offering schools some examples of geography units of work which could be adopted and adapted to suit requirements as appropriate. Within the teachers' notes, enquiry is briefly discussed as follows.

Enquiry skills are defined within the section on 'thinking skills' as skills which 'enable children to ask relevant questions .... pose and define problems ... plan what to do and ways to research ... predict outcomes and anticipate consequences and (to)test conclusions and improve ideas' (DfEE/ QCA, 2000, p.14).

This definition has a generic relevance and obviously is applicable to other curriculum areas. This prompts challenging questions about the precise nature of '*geographical* enquiry'

– and the degree to which this is a subject specific or generic learning approach, within the thinking skills framework.

Summary

Within statutory documentation, the prominence of 'geographical enquiry' has increased, with what seems to be an evolving methodology (DFE, 1995; DfEE/ QCA, 1999). This in itself is interesting, given that statutory documents cannot legislate about specific pedagogical approaches or techniques.

As the prominence of enquiry within GNC has increased, so too has the detail relating to its progressive characteristics. Progression in 'geographical enquiry' or the implied progression within and across documentation can be interpreted as being inconsistent. Different assumptions are made about characteristics such as increasing autonomy of pupils, and pupils' innate curiosity and ability to formulate and ask their own questions. In parts, progression in enquiry seems to be defined in terms of quantity of processes and skills rather than complexity of corresponding geographical content. Assumptions again are made about the use and significance of some (possibly fundamental) enquiry skills at Key Stages 1 and 2 (DFE, 1995; DfEE/ QCA, 1999). Level Descriptions (DFE, 1995; DfEE/ QCA, 1999) also offer confused messages about the nature of progression.

- **The three main issues stemming from the analysis of statutory documentation therefore include:**
    - **justification for inclusion and prominence of enquiry within the Geography National Curriculum (nature of theoretical/ empirical underpinning);**
    - **clarity and developmental appropriateness of implied progression;**

- **the degree to which the statutory documentation (PoS and Attainment Target) have the potential to be helpful to practitioners in primary schools with regard to implementing an enquiry-based approach.**

Within non-statutory documentation, progression within enquiry is explored further (SCAA, 1997a; SCAA, 1997b; QCA, 1998) but fails to make obvious links with statutory counterparts and also continues to adopt the same assumptions as detailed above. Definitions and perceptions also tend to be inconsistent and lack any empirical basis (SCAA, 1997a; SCAA, 1997b; QCA, 1998; DfEE/ QCA, 1999). Interestingly, the degree to which the inclusion of enquiry questions within planning documents actually serves to promote enquiry-based learning in the classroom, is identified as a significant issue requiring further exploration (SCAA, 1997b; QCA, 1998).

- **The three main issues stemming from the analysis of relevant non-statutory documentation therefore include:**
  - **clarity and developmental appropriateness of implied progression;**
  - **the varied interpretations and perceptions of enquiry;**
  - **the degree to which suggestions and recommendations actually have the potential to promote enquiry-based methods in the primary classroom.**

Overall therefore, it seems that the three main strands requiring more in-depth analysis comprise:

- What is enquiry in geography?
- Why use enquiry methods in school geography?
- How can this approach be implemented and developed in the primary school?

This study will aim to address these 3 strands with a focus on the central question – the nature of 'enquiry in geography' or 'geographical enquiry'.

Summary of Findings

Exploration of Primary School Teachers' and Initial Teacher Training Tutors' ideas about Geographical Enquiry at Key Stages 1 and 2

Introduction

Within this study there have been four main areas of study. These have been summarised in Figure 5 below.

Figure 5: Areas of Study

Areas of Study	Research Method
1. Analysis of policy documentation relating to enquiry	Textual analysis of official documents and records (Berg, 2004)
2. Analysis of archival evidence relating to enquiry	Analysis of references to enquiry within geography journals dating from 1900 (Berg, 2004)
3. Exploration of PS Teachers' ideas about geographical enquiry at key stages 1 and 2	Survey analysed using statistics (Gorard, 2003) and content analysis (Berg, 2004; Garner et al., 2002a; Garner, 2002b)
4. Exploration of ITT tutors' ideas about geographical enquiry at key stages 1 and 2	Survey analysed using content analysis (Berg, 2004; Garner et al., 2002a; Garner, 2002b) Comparisons with the above views of teachers using content analysis

This chapter focuses on the **initial analysis and summary of the views of PS Teachers and ITT Tutors, in relation to geographical enquiry at primary school level ('Areas of Study' 3. and 4. as indicated in Figure 4 above).** Chapter 3 focuses on 'Areas of Study' 1 and 2.

EXPLORATION OF TEACHERS' AND INITIAL TEACHER TRAINING TUTORS' IDEAS ABOUT GEOGRAPHICAL ENQUIRY AT PRIMARY LEVEL

The Sample

The sample of 50 **PS Teachers** was randomly selected. A list of Partnership schools at the University of Chester was requested and the last 50 schools on the list were sent a questionnaire, covering letter and stamped addressed envelope (see Appendix 1 & 2).This sample comprised Primary, Infant and Junior Schools. A total of 23 out of the 50 schools responded (balance of Primary, Infant and Junior Schools), giving an acceptable response rate of 46% (Tilley & Norton, 1998; Garner et al., 2002a).

The sample of **ITT tutors** was based on a list of Primary Geography ITT tutors within the UK, received from a colleague well known nationally for his research into Primary Geography (Simon Catling; Oxford Brookes University). The 'Ideal Enquiry - based Learning Task Inventory' (IELTI) was administered electronically by e-mail (see Appendix 3). A total of 15 out of 40 academics responded (it should be noted however, that it was later revealed that not all colleagues listed were still in post at the time of sampling). This gave an acceptable response rate of 37.5% (Tilley & Norton, 1998; Garner et al., 2002a).

The results from the sample do need to be treated with caution. In terms of the ITT tutors' responses, it is possible that only those who felt 'confident' enough to describe six possible dimensions of 'enquiry' and/ or, who had the time to do so, chose to respond. This is a potential source of bias for example, as there may be a greater proportion than reflected within this study, of ITT tutors who may feel unable to describe the process of enquiry with the confidence level required by the IELTI and therefore their position may not be represented here. Related to this, for those ITT Tutors who completed the inventory in full, responses may not been have been drawn from a background in academic geography. Results may have been markedly different,

had the sample been based only on lecturers who had been awarded a first and/ or higher degree in the subject of geography.

Similarly, in terms of the teachers' responses, factors which will inevitably affect the response rate and which may introduce potential sources of bias include; subject having actually received the questionnaire, a subject's time available to complete the questionnaire (their range of roles/ position in school), a subject's confidence and thus inclination to answer a questionnaire on the subject of primary geography (especially if a non specialist). This is a potential source of bias for example, as there may be a greater proportion than reflected within this study, of subjects (teachers/ geography co-ordinators/ Headteachers etc.) who do feel able to describe the process of enquiry in detail and with confidence, and therefore their position may not be represented here.

The Raw Data

The raw data relating to the survey of PS Teachers can be found in Appendix 5.

The raw data relating to the survey of ITT Tutors can be found in Appendix 6.

The Process of Content Analysis – ITT Tutors

The process of content analysis differed slightly across the two samples. This was because the methodological tools varied with respect to how the data was collected, thus leading to a variation in terms of responses (See Chapter 2).

The general procedure and underlying principles of the process of content analysis which was used to analyse responses from ITT tutors has been summarised below.

1. All responses were considered and similar responses grouped. In terms of the responses by **ITT tutors,** this focused on the features or characteristics of both an **'Ideal Enquiry – based Learning Task'** and a **'Not Ideal Enquiry- based Learning Task'** (see Appendix 3). Care had to be taken to consider both the 'positive' and the 'negative' dimensions within each response.

2. This process led to the listing of a number of 'approximate categories' to which an appropriate title was given. For example, a category being identified as *'Resources'*. See Figure 6 below.

During this first stage, there should be approximately 10-12 categories, with a view to keeping the task of content analysis relatively manageable.

Figure 6: 'Approximate Categories' (Phase 1)

1. Questioning
2. Purpose and meaning of task to pupils (motivation)
3. Connectiveness of geographical and cross-curricular concepts and skills (including development of attitudes and values)
4. Resources
5. Learning/ teaching styles 1 : learner's autonomy and teacher control
6. Learning/ teaching styles 2: group work and individual tasks
7. Enquiry cycle: ask, plan, collect & record data, draw conclusions, evaluate
8. Critical thinking & higher order thinking skills (including metacognition)
9. Learning context: field and classroom-based learning
10. Creativity
11. Teacher as human resource
12. Prior knowledge and differentiation
13. Outcomes of task: closed and fixed, open and flexible

3. All responses were considered again. This time, each response (or 'dimension' as 'Ideal' and 'Not Ideal' considered each time), was assigned to one of the 'approximate categories' (see Appendix 7)
4. At this stage it became obvious that 'approximate categories' could be merged, deleted, described in more precise terms so as to more accurately reflect the 'dimensions' in terms of the responses which they needed to represent. A list of 'refined categories' is shown in Figure 7 below.

The category titles had to be detailed enough both to characterize the main essence of each category and also to distinguish it from others. This in turn will serve to facilitate the relatively easy assignment of each response/ dimension.

Stage 3 (see above) was repeated with the honed and 'refined categories' (see Figure 7 below).

A fundamental principle of content analysis is that all responses to be analysed have to be allocated to one of the categories, but never to more than one category.

This process produced a list of 8 categories (see Figure 7 below), with the Inventory responses /dimensions assigned within each (see Appendix 7).

Figure 7: Suggested Merging of Categories: 'Refined Categories' (Phase 2)

1. **Purpose and meaning of task:** the task has a clear purpose which is meaningful and motivating to pupils vs. the task has no clear purpose and is unrelated to pupils' interests

2. **Resources:** the task involves the use of a wide range of good quality geographical resources vs. the task involves the use of a limited range of resources, not always relevant to geographical enquiry

3. **Planning 1:** the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection) vs. the task is not based on an 'enquiry cycle', when teacher or pupil planning

4. **Planning 2:** the task takes prior geographical knowledge into consideration and differentiation is appropriate vs. the task does not take prior learning into account and differentiation is not clearly evident

5. **Planning 3:** the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values vs. the task fails to make links with other geographical and cross curricular concepts, skills, attitudes and values.

6. **Learning/ teaching styles 1 :** the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ opportunities for creativity vs. the task is controlled and directed by the teacher – teacher as provider of closed questions and predetermined answers

7. **Learning/ teaching styles 2:** the task is organized as a collaborative group activity vs. the task is organized as an individual task

8. **Learning context:** the task involves field work vs. the task is classroom-based

5. An independent rater was then presented with the categories and a separate list of the responses/ dimensions and asked to assign each response/ dimension to one of the 8 categories (see Appendix 7)

6. Inter-rater reliability was then calculated (see below)) and an acceptable level of agreement was identified.

Inter-rater reliability results

Formula for calculation of the reliability of the process of content analysis, using an independent rater:

Total number of references – disagreement frequency = agreement frequency

90 – 16= 74

Percentage level of agreement = 82 %

This level of agreement indicates that the process of content analysis and subsequent identification of categories is reliable (Tilly and Norton (1998), Garner et. al (2002a)).

7. This procedure produced a list of 8 categories for ITT tutors which represent the participating respondents' 'composite view', (see Figure 8 below).

Figure 8: Initial 'Composite View' of 'Ideal Enquiry-based Learning Task' (ITT Tutors)

An Ideal Enquiry-based Learning Task:	A Not Ideal Enquiry-based Learning Task:
the task has a clear purpose which is meaningful and motivating to pupils	the task has no clear purpose and is unrelated to pupils' interests
the task involves the use of a wide range of good quality geographical resources	the task involves the use of a limited range of resources, not always relevant to geographical enquiry
the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)	the task is not based on an 'enquiry cycle' , when teacher or pupil planning
the task takes prior geographical knowledge into consideration and differentiation is appropriate	the task does not take prior learning into account and differentiation is not clearly evident
the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values	the task fails to make good links with other geographical and cross curricular concepts, skills, attitudes and values.
the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity	the task is controlled and directed by the teacher – teacher as provider of closed questions and predetermined answers
the task is organized as a collaborative group activity	the task is organized as an individual task
the task involves field work	the task is classroom-based

8. Finally, in relation to each of the 8 categories, a response/ dimension frequency was calculated so as to provide a basis for the rank order of the responses/ dimensions within each 'composite view' (see Figures 9 and 10).

Figure 9: Dimension Frequencies (ITT Tutors)

An Ideal Enquiry-based Learning Task:	A Not Ideal Enquiry-based Learning Task:	Response Frequency	Percentage Frequency
the task has a clear purpose which is meaningful and motivating to pupils	the task has no clear purpose and is unrelated to pupils' interests	14	16%
the task involves the use of a wide range of good quality geographical resources	the task involves the use of a limited range of resources, not always relevant to geographical enquiry	7	9%
the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)	the task is not based on an 'enquiry cycle' , when teacher or pupil planning	17	19%
the task takes prior geographical knowledge into consideration and differentiation is appropriate	the task does not take prior learning into account and differentiation is not clearly evident	2	2%
the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values	the task fails to make good links with other geographical and cross curricular concepts, skills, attitudes and values.	8	9%
the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity	the task is controlled and directed by the teacher – teacher as provider of closed questions and predetermined answers	25	28%
the task is organized as a collaborative group activity	the task is organized as an individual task	7	8%
the task involves field work	the task is classroom-based	10	9%

Figure 10: Final 'Composite View' of 'Ideal Enquiry-based Learning Task' (based on response frequencies within each category): ITT Tutors

Rank order (based on response frequency)	An Ideal Enquiry-based Learning Task:	A Not Ideal Enquiry-based Learning Task:
1	the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity	the task is controlled and directed by the teacher – teacher as provider of closed questions and predetermined answers
2	the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)	the task is not based on an 'enquiry cycle' , when teacher or pupil planning
3	the task has a clear purpose which is meaningful and motivating to pupils	the task has no clear purpose and is unrelated to pupils' interests
= 4	the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values	the task fails to make good links with other geographical and cross curricular concepts, skills, attitudes and values.
= 4	the task involves the use of a wide range of good quality geographical resources	the task involves the use of a limited range of resources, not always relevant to geographical enquiry
= 4	the task involves field work	the task is classroom-based
5	the task is organized as a collaborative group activity	the task is organized as an individual task
6	the task takes prior geographical knowledge into consideration and differentiation is appropriate	the task does not take prior learning into account and differentiation is not clearly evident

The Process of Content Analysis – Primary School Teachers

1. All responses were considered and similar responses grouped. In terms of the responses by **PS Teachers**, this focused on the features of an **Ideal Enquiry- based Learning Task (IELT)** only (see Appendix 8)
2. As the responses in general were similar in content to those by ITT tutors, and for the purposes of comparison, the same list of 'refined categories' identified within analysis of ITT tutors responses, was used to analyse this data set (see Figure 10 above).
3. All responses were considered and assigned to one of the 'refined categories' (see Appendix 8).

   At this stage it became obvious that two additional categories needed to be added, which did not apply to those responses by ITT tutors within the first sample. This process led to a list of 10 categories for primary school teachers, which represent the participating respondents' 'composite view', (see Figure 11 below).

Figure 11: Initial 'Composite View' of 'Ideal Enquiry-based Learning Task' (PS Teachers)

An Ideal Enquiry-based Learning Task:
the task has a clear purpose which is meaningful and motivating to pupils
the task involves the use of a wide range of good quality geographical resources
the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)
the task takes prior geographical knowledge into consideration and differentiation is appropriate
the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values
the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity
the task is organized as a collaborative group activity
the task involves field work
* *the task features effective questioning by the teacher*
* *No response*

*** = additional categories based on responses of research sample**

4. In relation to each of the 10 categories, a response frequency was calculated so as to provide a basis for the rank order of the responses within the 'composite view' (see Figures 12 & 13).

5. In addition to the above, teachers were also asked about their confidence levels with regard to what enquiry means in practice. The results are shown below (see Figure 14).
6. Finally, summary statistics relating to independent variables measured in the teacher questionnaire were analysed and the profiles of those (9 teachers) who feel confident with the notion of 'enquiry in practice' is shown in Figure 15.

Figure 12: Dimension Frequencies (PS Teachers)

An Ideal Enquiry-based Learning Task:	Response Frequency	Percentage
No response	30	33%
the task involves field work	17	18%
the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity	13	14%
the task involves the use of a wide range of good quality geographical resources	11	12%
the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)	7	8%
the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values	6	7%
the task has a clear purpose which is meaningful and motivating to pupils	4	4%
the task features effective questioning by the teacher	2	2%
the task is organized as a collaborative group activity	1	1%
the task takes prior geographical knowledge into consideration and differentiation is appropriate	1	1%

Figure 13: Final 'Composite View' of 'Ideal Enquiry-based Learning Task' (based on response frequencies within each category): PS Teachers

Rank order (based on response frequency)	An Ideal Enquiry-based Learning Task:
1.	*No response*
2.	the task involves field work
3.	the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity
4.	the task involves the use of a wide range of good quality geographical resources
5.	the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)
6.	the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values
7.	the task has a clear purpose which is meaningful and motivating to pupils
8.	*the task features effective questioning by the teacher*
9.	the task is organized as a collaborative group activity
10.	the task takes prior geographical knowledge into consideration and differentiation is appropriate

Figure 14: Summary statistics of teachers' confidence levels

(*where* **1** *means* **very confident)**

Score	Frequency of score
0	2
1	1
2	8
3	6
4	5
5	1

9/ 23 agree to feeling confident = frequency of 39%

14/ 23 not sure or disagree that feeling confident = frequency of 61%

Summary statistics of independent variables measured in teacher questionnaire

Undergraduate/ postgraduate study (Geography)

6/ 23 (**26%**) of teachers had undergraduate training in Geography within the context of Initial Teacher Training, compared with **74%** who did not.

1/ 23 (**4%**) of teachers studied Geography at undergraduate level (as their first degree) compared with **96%** who did not.

None of the teachers surveyed had studied Geography at postgraduate level.

Reasons for becoming Geography Co-ordinator

14/ 23 (**61%**) stated that most significant reason for the allocation of the role of Geography Co-ordinator was a decision by the Headteacher

6/ 23 (**26%**) stated their own personal interest was the most significant factor in being appointed as Geography Co-ordinator

2/ 23 (**9%**) stated that their qualifications were the most important reason for taking on the role

1/ 23 (**4%**) stated the most important reason as 'other' and commented *'geography co-ordinator left and wanted easier job after 10 years doing mathematics'*

Number of years as Geography Co-ordinator

12/ 23 (**52%**) in post for 1-5 years

6/ 23 (**26%**) in post for 6-10 years

5/ 23 (**22%**) in post for 11-20 years

CPD Opportunities as Geography Co-ordinator

5/ 23 (**22%**) had experienced CPD in Primary Geography, compared with **78%** who had not.

Additional curriculum areas managed whilst in role as Geography Co-ordinator

17/ 23 (**74%**) currently manage other curriculum areas, in addition to Geography, compared with 6/ 23 (**26%**) who only have responsibility for Geography

Experience of teaching Geography in school

21/ 23 (**91%**) currently teach geography in their school, compared with **9%** who do not teach the subject in their school.

Figure 15: Profiles of (9) teachers who felt confident with regard to their understanding of what 'geographical enquiry' means in practice.

*Subject	Undergraduate/ postgraduate qualifications relevant to Geography	Most important reason for becoming geography coordinator	Number of years in role	CPD opportunities	Other curriculum areas managed	Experience of teaching geography in school	Perceived characteristics of Ideal Enquiry – based Learning Task
7	No	Head's decision	1-5	Yes	Yes/ Early Years	Yes	Ask and respond to questions about places Undertake tasks involving maps and diagrams Use a range of equipment and secondary sources Field-based/ own observations
8	No	Head's decision	1-5	Yes	No	Yes	Children asking and answering geographical questions Closely related to children's surroundings Field-based Good resources
9	No	Head's decision	11-20	No	No	Yes	Primary evidence based field work Look at evidence, primary and secondary Draw conclusions from above evidence Discussion of issues

10	Yes – Cert. Ed. + Geography	Personal interest	11-20	Yes	Yes, multi-cultural	Yes	Field work driven Researching issues e.g. questionnaires Answering questions, posing questions Using a variety of sources or resources
16	No	Other – wanted a change from Maths	1-5	No	No	Yes	Field-based Asking and answering questions Use of good resources No response
18	No	Personal interest	6-10	No	No	Yes	Centre based activities Orienteering type activities Pupils finding out practically Using appropriate resources
19	Yes - first degree = Geography	Head's decision	11-20	Yes	Yes, History	Yes	Field work around school and local area Using web sites/ interactive whiteboard/ Broadband Photographs/ pictures/ books Games
20	No	Head's decision	1-5	No	No	Yes	An active approach through practical activities Using their own experience Teacher led questioning (open and closed) Children posing their own questions
22	Yes – in context of B. Ed degree	Personal interest	6-10	No	Yes, PE	Yes	Field-based Would involve asking and getting children to explore Key questions – where are we? No response

*'Subject' refers to reference number on excel spreadsheet (see Appendix 6).

Discussion of Findings

Conventions

MAIN SECTION SUBTITLES IN BOLD CAPITALS/ UNDERLINED

- **Key findings in bold type and formatted using bullet points**

Summary statements in italic text and centrally aligned

Introduction

Within this section, findings within the 'Five Areas' detailed below, will be analysed and discussed. The five areas have determined the section headings within this chapter. With respect to Areas 1-3 (Historical Overview, Policy (Rhetoric) and Constructivism (Theory)), key findings are summarised only, as discussions within the context of a review of the literature can be found within Chapter 3. The summary of findings relating to Areas 4 and 5 (Notions of Enquiry – ITT tutors and PS Teachers) can be found in Chapter 4. Within this chapter, Areas 4 and 5 will be analysed and discussed in relation to all other areas. Conclusions and recommendations will be detailed in Chapter 6.

Five Areas for analysis and discussion

1) **Notions of Enquiry: Historical Overview**
2) **Notions of Enquiry: Policy (Rhetoric)**
3) **Enquiry and Learning: Constructivism (Theory)**
4) **Notions of Enquiry: Initial Teacher Training Tutors (Practice)**
5) **Notions of Enquiry: PS Teachers (Practice)**

AREA 1: NOTIONS OF ENQUIRY: HISTORICAL OVERVIEW

Key Findings

- **Historically there has been a lack of consensus with regard to the nature of the subject of geography.**
- **Historically, in part due to the above, there has been a lack of consensus with regard to how to teach school geography effectively.**
- **Within the context of 'early' primary and secondary school geography (pre-dating 1970), there is evidence of enquiry-based approaches to teaching and learning.**

  The two main innovations in geography teaching are the use of models and the employment of a 'problem solving' or 'hypothetical' mode of instruction. Neither of these trends are entirely new. Geography teachers, although they perhaps do not often regard them as such, use models every day in their work (Crisp, 1969, p.11).

- **Since the 1970's, the changes in geography teaching (particularly at secondary level) summarised as 'geographical enquiry', have been described as of important 'significance' (Rawling, 2001, p.38) in the development of effective geography teaching and learning.**

  Enquiry has been described as:

  a range of teaching methods and approaches by which the teacher encourages students to enquire actively into questions, issues and problems rather than merely to accept the conclusions, research and opinions of others (Rawling, 2001, p.38).

- **The outcomes of a series of small research projects on geographical enquiry at key stage 3 (Roberts 1998a, 1999, 2003) do seem to suggest that teachers' interpretations and constructions of 'geographical enquiry' vary at classroom level, despite there being a statutory order within which 'enquiry' is defined.**

AREA 2: NOTIONS OF ENQUIRY: POLICY (RHETORIC)

Key Findings

- **The three main issues stemming from the analysis of statutory documentation therefore include:**
    - **justification for inclusion and prominence of enquiry within the GNC (nature of theoretical/ empirical underpinning);**
    - **clarity and developmental appropriateness of implied progression;**
    - **the degree to which the statutory documentation (PoS and Attainment Target) have the potential to be helpful to practitioners in primary schools with regard to implementing an enquiry-based approach.**
- **The three main issues stemming from the analysis of relevant non-statutory documentation therefore include:**
    - **clarity and developmental appropriateness of implied progression;**
    - **the varied interpretations and perceptions of enquiry;**
    - **the degree to which suggestions and recommendations actually have the potential to promote enquiry-based methods in the primary classroom.**

AREA 3: ENQUIRY AND LEARNING: CONSTRUCTIVISM (THEORY)

Summary

The process of enquiry can be justified in relation to theories of learning (constructivism) and particularly because enquiry focuses on the higher order thinking skills within the cognitive domain (as identified by Blooms (as cited in Child (1981)).

This means that rather than just focusing on the relatively low status of the process of knowledge acquisition, an enquiry approach facilitates the development of deeper understandings, the ability to apply and analyse information, and to synthesise and evaluate. All of these increasingly complex and advanced levels of cognitive activity, are seen as key in helping the pupil to make valid judgements and to reach higher levels of achievement.

AREA 4: NOTIONS OF ENQUIRY: INITIAL TEACHER TRAINING TUTORS (PRACTICE)

Within this section, the dimensions of the ITT tutors' composite view will be analysed and discussed in relation to the literature and the key findings outlined above. Each dimension (8 in total) will therefore be considered in terms of the history of education, relevant curriculum documentation, and theories of learning.

The order of dimensions presented here reflects the rank order based on frequency of responses.

At the end of this section, the composite view will be considered as a whole and summarised. Findings within this section will be compared with the published pilot study.

- **the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity *versus* the task is controlled and directed by the teacher – teacher as provider of closed questions and predetermined answers**

This dimension, within which the greatest number of responses were grouped, clearly relates to what Roberts describes as the 'participant dimension' (2003, p.34). That is, the extent of participation and degree of control by the learner, as compared with that exercised by the teacher. Within the dimension described above, ITT tutors described the 'ideal' in terms of pupil autonomy, the opportunity to identify their own lines of enquiry and to have some control over their own learning. Similar to Roberts' 'framed' and 'negotiated' categories within the 'participant dimension', 'there is much greater participation in the framed category...(and) in the negotiated category...control is largely handed over to the student' (2003, p.35). This is in contrast to a 'closed enquiry' where the 'focus of (the) enquiry is (usually) chosen by the teacher' (Roberts, 2003, p.35).

The claim that pupil autonomy is an important characteristic of good teaching in geography is not new. Despite the shift towards a more progressive ideology during the 1970's (through various curriculum development projects and the child centred ethos prevalent at the time in primary schools) there is acknowledgement long before this time that pupil autonomy and control are significantly important in effective teaching and learning in geography (Unstead 1928; Fairgrieve, 1936; Cullis, 1919; Haddon 1948; Jones 1925).

During the 1970's, the importance of pupil autonomy and control was continually embedded within the various curriculum projects and new thinking about geography at the time (Crisp, 1969; Cole& Beynon, 1970; Walford, 1969; Naish, 1976; Naish, 1985).

This was also the case in terms of the subsequent introduction of the GNC, where enquiry was identified formally as an approach to teaching and learning in geography (DES, 1991; DFE, 1995; DfEE/ QCA, 1999) through which , for example, 'children should be taught to ; ask geographical questions..' (DfEE/ QCA, 1999, p.16). However, as identified earlier, the clarity of the nature of and progression in enquiry, in terms of policy documentation is potentially

problematic. It is hoped that the composite views discussed within this chapter may aid a more in-depth discussion of the characteristics of enquiry-based learning.

In terms of learning theory, the ITT tutors' response here reflects a constructivist ideal. That is, the notion that children make sense of the world by actively making sense of new information. They relate new information to what they already know (Roberts, 2003; Ginsburg and Opper, 1988; Bruner, 2003; Vygotsky, 1978).This can be facilitated by presenting opportunities for the learner to be autonomous in terms of asking and answering their own questions, as opposed to the teacher as the provider of closed questions and predetermined answers.

- **the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection) *versus* the task is not based on an 'enquiry cycle' , when teacher or pupil planning**

This dimension very much reflects the current wording within the NC for Key Stages 1 and 2 (DfEE/ QCA, 1999). It focuses on the 'ideal' process of enquiry and the nature of the various stages. However, the degree to which it is appropriate to implement the full enquiry cycle within each lesson or project, is questionable. This is particularly the case with primary geography and is due to a variety of potential constraints, such as, limitations of time, resources and ability levels (Roberts, 1987).

Thinking skills were drawn into this dimension due to the nature of the responses and the process of content analysis. This fits with Roberts' view that enquiry encompasses all thinking skills and that rather than viewing 'geographical enquiry' and 'thinking skills' as distinct, that instead, one is part of the other (2003). Indeed both are based on the same tenets, and most importantly, emphasise the process of learning as the significant factor in effective

learning (Feurestein (1980); Lipman (1980); de Bono, (1992); Rawling (2001); Roberts (2003)).

- **the task has a clear purpose which is meaningful and motivating to pupils *versus* the task has no clear purpose and is unrelated to pupils' interests**

Historically, this dimension has been highlighted as being important. For example, Cullis (1919) describes how a lesson where the pupils had to identify a focus for their own learning and then present the findings to the rest of the class led to many benefits, including enhanced motivation levels. The content was chosen by the pupils and thus of interest to them, and the task of presenting findings to an audience gave a clear focus to the work.

During the 1970's, this was also identified as an important aspect of learning in geography. Hypothetical and problem-solving modes of instruction offered a clear purpose to learning and it has been argued that this increased the participation and motivation of young learners (Crisp, 1969; Cole & Beynon, 1970; Walford, 1969; Naish, 1985).

- **the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values *versus* the task fails to make good links with other geographical and cross curricular concepts, skills, attitudes and values.**

This dimension again, is very much in line with the progressive ideology of the 1960's & 70's, from which 'enquiry' emerged as the recommended approach to teaching and learning in geography. This dimension refers to the extent to which the IELT is connected to other geographical and cross curricular aspects, the ideal being that these links are forged. Rawling justifies this in terms of the progressive ideology, through which ' academic subjects (are used as)..the medium for developing skills, attitudes, values and learning styles which help pupils become (autonomous) individuals' (2001, p.32).

As the GNC has been revised and evolved, there has been an increasing emphasis on ensuring that the various aspects of geography (of which enquiry is one) are interrelated and connected (DES, 1991; DFE, 1995; DfEE/ QCA, 1999). For example, four aspects of geography have been identified within the current GNC (DfEE/ QCA, 1999) comprising: geographical enquiry and skills, knowledge and understanding of places, knowledge and understanding of patterns and processes and knowledge and understanding of environmental change and sustainable development. Within the PoS, it states that:

> Teaching should ensure that geographical enquiry and skills are used when developing knowledge and understanding of places, patterns and processes, and environmental change and sustainable development
>
> (DfEE/ QCA, 1999, p110-11).

Non-statutory guidance, such as the geography Scheme of Work (DfEE/ QCA, 2000) emphasise the importance of cross curricular links with areas such as literacy, numeracy and ICT (Information and Communications Technology).

- **the task involves the use of a wide range of good quality geographical resources *versus* the task involves the use of a limited range of resources, not always relevant to geographical enquiry**

It is commonly accepted that 'the use of a wide range of good quality geographical resources' is central to good teaching and learning in geography and within an enquiry-based approach. It is a necessary corollorary of the above dimensions that for pupils to work autonomously, within an enquiry-based approach, with a focus that is motivating for pupils and which interests them, and which incorporates cross curricular type elements, that a very good range of high quality, geographical resources are needed. The provision of such resources helps to promote 'far more real geography...than was ever achieved in the 'chalk and talk' lesson (GA, 1963, p.421).

In terms of the current NC (DfEE/ QCA, 1999), the use of a wide range of sources and resources is seen as important and this requirement has been incorporated within the PoS; for example, the use of field work equipment, range of globes, maps and plans, CD-ROMS, pictures, stories, information texts, videos and artefacts (QCA/ DfEE, 1999).

- **the task involves field work *versus* the task is classroom-based**

There has been considerable debate as to whether an enquiry-based approach can be both classroom and field work based (QCA, 1998). A small study (Roberts, 1998a; Roberts, 2003) revealed a similar response to that found here (field work as a feature of an IELT), finding, in terms of activity examples given, that there was an association of enquiry work and field-based contexts.

Whilst this dimension identifies field work as the ideal context, it could be argued that both are valid contexts within which to develop an enquiry-based task and associated problem-solving skills. Many early approaches akin to enquiry focus on classroom based enquiries and related resources (Crisp, 1969; Cole & Beynon, 1970; Walford, 1969).

In terms of the NC (DfEE/ QCA, 1999), fieldwork is identified as one of the geographical skills which should be developed. The other skills listed, (four more at Key Stage 1 and six more at Key Stage 2), could certainly be developed either within the classroom or within field-based contexts. For example, the use of geographical vocabulary and secondary sources of information, can be employed effectively in either context.

There are many factors which affect the successful implementation of an enquiry-based approach within the primary school, but health and safety and time limitations are two that are particularly relevant to field-based work. It maybe useful to conclude that whether an enquiry is classroom or field-based, both potentially represent a context for an IELT.

- **the task is organized as a collaborative group activity *versus* the task is organized as an individual task**

The dimension identified here links clearly to contructivism and the thinking skills movement, especially in terms of the role of articulation, discussion and 'learning together' which these theories propound. Vygotsky's model of the 'Zone of Proximal Development' similarly identifies the significance of potential mediation of teachers and peers leading to higher levels of understanding and achievement (Vygotsky, 1978).

Similarly, with respect to the thinking skills movement, pioneers (Feurestein (1980); Lipman (1980); de Bono (1992)) stress the importance of language, articulation and discussion in learning.

The NC (DfEE/ QCA, 1999) lists a number of key skills, which should be developed within and across the academic subject areas. The ability to communicate and work with others is relevant to this dimension (DfEE/ QCA, 1999), although these requirements do not feature within the Geography PoS itself.

- **the task takes prior geographical knowledge into consideration and differentiation is appropriate *versus* the task does not take prior learning into account and differentiation is not clearly evident**

The importance of taking prior knowledge into account is central to early expositions of hypothetical and problem-solving methods (Fairgrieve, 1936; Unstead, 1928; Cullis, 1919; Haddon, 1948; Crisp, 1969; Walford, 1969; Cole and Beynon, 1969). This is also seen to be true in terms of what later became known as 'geographical enquiry' (Naish, 1976; Naish 1985). The more 'scientific' approach to geography, through which laws or models are applied to make sense of new facts, was seen to give pupils opportunities to draw upon, apply and revise previous knowledge, understandings and generalizations.

This is in contrast to the traditional didactic, transmission model of learning, emphasising memorization and 'bolted on' rote learning. In line with the theory of contructivism, taking prior knowledge into account is seen as vital in facilitating the accommodation and assimilation of new facts and ideas within pupils' existing constructs (Barnes and Todd, 1995, as cited by Roberts, 2003).

Summary of Composite View (ITT Tutors)

An Ideal Enquiry- based Learning Task (IELT) will facilitate autonomous learning and present children with opportunities to ask and answer geographical questions. Usually, the task will be based on a number of stages within the enquiry cycle which comprise; asking questions, collecting, recording, analysing, discussing data and drawing conclusions. Evaluation and reflection of the planned enquiry will also feature. The task will have a clear purpose which is meaningful and motivating to pupils. It will be well conceived in terms of exploiting opportunities to develop other aspects of geography and knowledge skills, understandings, attitudes and values across the whole curriculum. The task will involve the use of a wide range of high quality, geographical resources and ideally, will involve some field work. Children will have the opportunity to work collaboratively and in planning the task, prior knowledge and varying levels of ability will be taken into account.

Comparison with Pilot Study

The composite view identified in this study is not dissimilar to that identified in the pilot study (Garner, 2002b). The main difference between the pilot study and this study is the constitution of the sample. The pilot study was based on the responses of primary and secondary ITT Tutors, whilst this study focuses on primary ITT tutors only (as the focus is on Key Stages 1 and 2).

Both studies resulted in the following similar dimensions:

- Active/ autonomous learning involving questioning by the children (ranked as 1 across both studies)
- Activities with relevance to children; content interesting and motivating (ranked as 3 across both studies)
- Use of enquiry cycle/ skills (ranked differently – lower in pilot study, but featured in both studies)
- Importance of high quality resources (ranked differently – higher in pilot study, but featured in both studies)
- Significance of collaborative/ group work (ranked similarly and featured in both studies)

The differences between the two studies are as follows:

- Thinking skills is represented as a separate dimension within the pilot study (Garner 2002b). Within this study, thinking skills are seen as an integral part of enquiry and this has been justified with reference to the literature (Roberts, 2003)
- The pilot study does not make reference to the following dimensions, which have been identified within this study: the importance of forging cross-curricular links, the importance of taking prior knowledge into account and the importance of field v classroom based contexts. These latter dimensions feature within the ITT Tutors' composite view within this study, and can be justified with reference to the literature (as described earlier in this chapter).

Area 4: Overall Summary

The composite view of an IELT, based on the responses of ITT tutors, presents a definition of enquiry which can be justified in relation to the literature. The features of an IELT described here relate not only to geography teaching in the past , but also to innovations in geographical education which led to and informed the current National Curriculum. The dimensions within the IELT relate closely to learning theory and in particular, constructivism. In terms of policy (statutory and non-statutory documentation), exploration of 'enquiry' is relatively brief, although the features of enquiry that are identified, are consistent with some of the dimensions outlined within the IELT.

AREA 5: NOTIONS OF ENQUIRY: PS TEACHERS (PRACTICE)

Within this section, some of the dimensions of the Teachers' composite view will be analysed and discussed in relation to the literature and the key findings outlined above. There are two dimensions within this composite view, which are additional to those identified within the composite view of ITT Tutors. These two dimensions (shown in italics below), will therefore be considered briefly, if appropriate, in terms of the history of education, relevant curriculum documentation and theories of learning.

The order of dimensions presented here reflects the rank order based on frequency of responses. If an individual dimension has already been dicussed in relation to the literature (above), it will not be discussed again here.

The composite view will then be considered as a whole and summarised.

The PS Teacher's composite view (IELT) will then be compared and discussed in relation to the ITT Tutor's composite view (IELT). Independent variables measured by the questionnaire will also be considered and related to key findings.

- *No response*

  Significantly, this response had the highest frequency. This means that across the four 'cells' within the questionnaire, where teachers were asked to identify features of an IELT, many gave no response at all or perhaps only identified one or two characteristics.

  This varies significantly when compared with the response by ITT Tutors who consistently completed all six dimensions as required by the IELTI. This will be discussed further below.

- **the task involves field work**
- **the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity**
- **the task involves the use of a wide range of good quality geographical resources**
- **the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)**
- **the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and values**
- **the task has a clear purpose which is meaningful and motivating to pupils**
- ***the task features effective questioning by the teacher***

This dimension is additional, in comparison with the ITT Tutors IELT. With regard to primary geography, it can be argued that the role of the teacher in 'framing' the enquiry is significant and that effective questioning is a strategy that can be used (Roberts, 2003). 'An enquiry approach to learning recognizes that knowledge is not something 'out there' ready to be learnt; it is generated in the process of answering questions' (Roberts, 2003, p. 39). The questions

being answered, ideally should be generated by the learners, but in reality within the primary classroom, teachers will also be involved in raising questions to be answered, as dictated by whole school planning, range of resources available, ability levels of the children and time available for studying geography. This does not mean that pupils cannot be involved in generating sub-questions and enquiries within the context of the 'frame' (Roberts, 2003).

In terms of learning theory, the recognition of the importance of effective questioning relates closely to the notion of the 'Zone of Proximal Development' and the teacher's role as mediator and facilitator of higher levels of understandings (Daniels, 2001, Vygotsky, 1978).

There are many references to the significance of teacher questioning in terms of enquiry, across the range of statutory and non-statutory documentation (DES, 1991; SCAAa, 1997; SCAAb, 1997; QCA (1998)).

- **the task is organized as a collaborative group activity**
- **the task takes prior geographical knowledge into consideration and differentiation is appropriate**

Summary of Composite View (PS Teachers)

An Ideal Enquiry- based Learning Task (IELT) will involve field work and in general aims to facilitate autonomous learning and present children with opportunities to ask and answer geographical questions. The task will involve the use of a wide range of high quality, geographical resources and will be based on a number of stages within the enquiry cycle which comprise; asking questions, collecting, recording, analysing, discussing data and drawing conclusions. Evaluation and reflection of the planned enquiry will also feature. The task will have a clear purpose which is meaningful and motivating to pupils and will be well conceived in terms of exploiting opportunities to develop other aspects of geography and knowledge, skills, understandings, attitudes and values across the whole curriculum. The teacher will use effective questioning to encourage and develop an enquiry-based approach. Children will have the

opportunity to work collaboratively and in planning the task, prior knowledge and varying levels of ability will be taken into account.

Comparison of PS Teachers' Composite View with ITT Tutors' composite View

The two significant differences between the PS Teachers' composite view (IELT) and that of the ITT Tutors, comprise a difference in rank order (based on frequency of responses) and the addition of two 'new' dimensions.

The two new dimensions, which have been briefly discussed above, include a 'no response' category and also a dimension relating to 'effective teacher questioning'. The latter has been related back to the literature and can be justified as a distinct dimension. Overall however, the other dimensions created through the process of content analysis (ITT Tutors responses) were found to be fitting in terms of analysing the data from the teachers.

The rank order of the dimensions represents the significant difference between the teachers and tutors in how they responded

In terms of frequency of responses (determining rank order of composite view) for teachers, the highest frequency was actually 'no response'. There are a number of variables which may have contributed to this return. The independent variables measured by the questionnaire (see Chapter 4) can be related to this result. Firstly, in terms of confidence levels, 61 % of teachers felt that they were 'not sure' if they were confident about what enquiry means in practice, or that they 'disagreed' about feeling confident at all. Clearly this statistic relating to confidence levels may be related to the relatively high frequency of 'no response'. Other factors which may be related to a lack of confidence in responding about geographical enquiry include:

- only 26% of teachers had experienced any form of undergraduate training in geography within the context of ITT
- only 4% had studied Geography as an academic subject at undergraduate level

- 61% were allocated the role of geography co-ordinator as opposed to choosing it because they were interested in doing the role (26%), or because they were qualified to do it (9%)
- Over half (52%) were relatively new to the role (1-5years) and only 22% had any experience of Continuing Professional Development in the subject.
- 74% of those surveyed had responsibility for more than one curriculum area

In comparison with the above, those teachers who agreed to feeling confident about what enquiry means in practice (39%) were analysed in terms of their profile (see Chapter 4, Fig. 15). The only significant pattern identified was with regard to CPD opportunities. Across the sample overall, only 22% had experienced CPD and this contrasts with the profiles of those who felt 'confident,' where 44% had some experience of CPD.

Compared with the ITT tutors composite view, where it is ranked as fourth, within the teachers' composite view, field work has been ranked as 'second'. As stated earlier, Roberts also found when surveying teachers, that there was a strong association of enquiry work and field-based contexts (Roberts, 2003). This has implications for defining the contexts within which the enquiry-based approach can be used and developed. This will be discussed further in Chapter 6.

The third dimension within the PS Teachers' composite view was the same dimension as features first within the ITT tutors' composite view ('the task facilitates autonomous learning - opportunities to ask and answer geographical questions/ fosters creativity'), so both PS Teachers and ITT tutors considered this to be an important dimension.

The next four dimensions ('the task involves the use of a wide range of good quality geographical resources'/ 'the task is based on the traditional 'enquiry cycle' ie. ask, plan, collect/ record/ analyse/ discuss data, draw conclusions, evaluate, long term proposals for 'action' etc. (comprising some higher order thinking skills/ reflection)'/ 'the task connects with other geographical and cross-curricular concepts and skills - including development of attitudes and

values'/ 'the task has a clear purpose which is meaningful and motivating to pupils') are ranked slightly differently across the two composite views, but with no significant differences.

After the additional dimension within the PS Teachers' composite view ('the task features effective questioning by the teacher'), the last two dimensions are ranked identically ('the task is organized as a collaborative group activity'/ 'the task takes prior geographical knowledge into consideration and differentiation is appropriate').

Area 5: Overall Summary

The composite view of an IELT, based on the responses of PS Teachers, presents a definition of enquiry which can be justified in relation to the literature. Similar to the composite view of ITT tutors in this respect, the features of an IELT described here relate not only to geography teaching in the past , but also to innovations in geographical education which led to and informed the current National Curriculum. The dimensions within the IELT relate closely to learning theory and in particular, constructivism. In terms of policy (statutory and non-statutory documentation), exploration of 'enquiry' is relatively brief, although the features of enquiry that are identified, are consistent with some of the dimensions outlined within the IELT. An additional dimension is identified and relates to effective teacher questioning.

The significant difference between the responses of ITT tutors and PS Teachers, is that teachers have a lower response rate when describing enquiry, and this correlates with low confidence levels when discussing enquiry. Low confidence levels in turn, correlate with various independent variables which may be seen as potentially offering an explanation for this pattern.

Conclusion and Recommendations

Conclusion

What is enquiry and why is it an important pedagogical context for primary geography?

Archival searches and a review of the literature reveal that historically there has been a lack of consensus with regard to the nature of the subject of geography and in part due to the above, there has been a lack of consensus with regard to how to teach school geography effectively.

Archival searches dating back to 1900 highlight considerable evidence of enquiry-based approaches to teaching and learning in terms of elementary and primary education. During the late 1960's and early 1970's, the rise of curriculum development projects led to changes in geography teaching (particularly at secondary level) summarised as 'geographical enquiry'.

Despite this historical context, the outcomes of a series of more recent, small scale research projects on geographical enquiry at key stage 3 (Roberts 1998a, 1999, 2003) seem to suggest that teachers' interpretations and constructions of 'geographical enquiry' vary at classroom level, despite there being a statutory order within which 'enquiry' is defined.

The textual analysis of government statutory and non-statutory documentation, dating back to 1990, has led to the conclusion that the there are issues relating to how 'geographical enquiry' is presented and explained. These issues relate to the need for a clear rationale for an enquiry approach, improved clarity with respect to progression in enquiry and finally, clearer guidance with regard to how to implement an enquiry-based approach in the classroom.

It has been found that the enquiry approach can be justified in relation to theories of learning (constructivism) and particularly because enquiry focuses on the higher order thinking skills within the cognitive domain (as identified by Blooms (as cited in Child (1981)).

This means that rather than just focusing on the relatively low status of the process of knowledge acquisition, an enquiry approach facilitates the development of deeper understandings, the ability to apply and analyse information, and to synthesise and evaluate. All of these increasingly complex and advanced levels of cognitive activity, are seen as key in helping the pupil to make valid judgements and reach higher levels of achievement.

The composite view of an IELT, based on the responses of ITT tutors, presents a definition of enquiry which can be justified in relation to the literature. The features of an IELT described here relate not only to geography teaching in the past, but also to innovations in geographical education which led to and informed the current National Curriculum. The dimensions within the IELT relate closely to learning theory and in particular, constructivism. In terms of policy (statutory and non-statutory documentation), although exploration of 'enquiry' is relatively brief, the features of enquiry that are identified are generally consistent with some of the dimensions outlined within the IELT.

The composite view of an IELT, based on the responses of PS Teachers, presents a definition of enquiry which can be justified in relation to the literature. Similar to the composite view of ITT tutors in this respect, the features of an IELT described here relate not only to geography teaching in the past, but also to innovations in geographical education which led to and informed the current National Curriculum. The dimensions within the IELT relate closely to learning theory and in particular, constructivism. Again, in terms of policy (statutory and non-statutory documentation), although exploration of 'enquiry' is relatively brief, the features of enquiry that are identified, are generally consistent with some of the dimensions outlined within the IELT. An additional dimension is identified however, and relates to effective teacher questioning.

The significant difference between the responses of ITT tutors and PS Teachers is that teachers have a lower response rate when describing enquiry, and this correlates with low confidence levels when discussing enquiry. Low confidence levels in turn correlate with various independent variables which may be seen as potentially offering an explanation for this pattern. The experience of Continuing Professional Development (in Primary Geography) seems to positively impact on teachers' confidence levels.

Recommendations

How can teachers' confidence levels be raised?

As a result of this study, the following recommendations have been made.

Firstly, there are implications for future versions of statutory and non-statutory documentation. The lack of a clear definition with respect to enquiry has already been suggested earlier within this study, and this is supported by the literature. Therefore, within the context of reviewing the NC for example (and related non-statutory guidance), a clearer definition of, and rationale for enquiry, needs to be stated and linked to learning theories such as constructivism. Progression in enquiry also needs to be detailed more clearly and again, should be linked to theories of learning and development.

It would be helpful to teachers if within the NC, clearer links were forged between 'geographical enquiry' and the key skills outlined at the beginning of the document (of which 'enquiry' is one). It might also be useful to highlight similar requirements across the range of subjects; for example, relating geographical enquiry to scientific and historical enquiry. Within the PoS itself, enquiry could be defined so as to reflect the fact that the scale of an enquiry or it's context may vary; for example, it can be field or classroom based, spanning a time frame of five minutes or half a term. This is particularly important within the primary setting where time,

resources and access to field sites can present a variety of issues in terms of implementing an enquiry-based approach effectively.

In terms of non-statutory publications, the production of illustrative guidance by government agencies, has often been based on the experiences of practitioners in the classroom, rather than being explicitly linked to learning theory (for example, DfEE/ QCA. (2000),QCA (1998)). This is not to say that examples cited by practitioners do not have a theoretical underpinning, but rather that the theory needs to be identified more clearly and referred to more consistently throughout the various publications. An understanding of the rationale for using an enquiry-based approach in the teaching of geography, helps in understanding the nature of the subject itself and related aspects of progression and continuity.

Finally, with respect to implementing this approach in the primary classroom, more acknowledgement is needed that practices in secondary education do not always apply to the primary phase. Some of the issues concern, for example, the representation of enquiry in planning, nature of progression in enquiry, assessment of enquiry, degree of pupil involvement, resources, health and safety, and the need for the primary teacher to model and mediate.

With the above in mind, additional non-statutory guidance on how to implement an enquiry-based approach effectively within the primary classroom, could potentially be very useful to geography subject leaders. In terms of curriculum planning, a variety of medium term planning models could be presented, but these should also include detail of short term planning and evidence of enquiry methods used within the lesson. It has already been documented that questions within planning do not necessarily lead to an enquiry-based approach at classroom level (QCA, 1998). Progression is an important area in terms of achievement and standards, and whilst attempts have been made to map out progression in geographical learning (for example, SCAA, 1997a), it would be preferable if links were made to learning theory and theories of development so that teachers are then equipped to make decisions about progression outside of

those areas or examples cited within the guidance. It would also be useful to consider the role of the teacher and the pupil in the learning process, with reference to learning theory (Daniels, 2001, Vygotsky, 1978), and particularly within the enquiry-based approach. This could be very powerful in helping to raise standards in teaching and learning in primary geography.

All of the aspects outlined above, need to be taken into account fully when publishing statutory requirements and non-statutory guidance, and appropriate Continuing Professional Development opportunities need to be offered to complement these initiatives.

Appendix 1
Questionnaire

1. Name of school:_____ **Number on roll:**_____

2. Local Education Authority:

*(Please specify):*_____

3. Have you got a degree in Education (B.Ed/ CERT. Ed)?
(Please circle correct answer):

YES NO

a) If YES, was Geography a major part of your degree at an academic level?

YES NO

b) If NO, was Geography your main academic subject at first degree level (BA/BSc)?

YES NO

4. Do you have any post graduate qualifications in Primary Geography?
For example, Certificate in the Advanced Study of Education (Primary Geography), M.Ed. (Master of Education - Primary Geography)
(Please circle correct answer):

YES NO

a) If YES, please state the qualification achieved

_____

5. With regard to how you became Geography co-ordinator, please rank the following:

Number *1* should be used to indicate the *most* significant factor
Number *3* should be used to indicate the *least* significant factor
If none of the factors outlined below apply, then please specify other factors

Possible factors	Rank (where 1 = most significant)
Your preference/choice based on your qualifications	
Your preference/choice based on interest rather than qualifications	
Headteacher's decision	
Other: (please specify):_____	

a) Please comment

_____

_____

_____

6. For how many years have you been Geography co-ordinator?
(Please circle correct answer):

1 (first year of teaching) 1-5 6-10 11-20 21-25 26-30 30+

7. Have you attended or participated in any CPD courses on Primary Geography?
(if not already noted in response to question 4)

(Please circle correct answer):

YES NO

If YES, please describe number of days attended, course provider and year of study
For example; 3 days, University College Chester, 2003-4

_____

_____

_____

_____

If YES, was any of your work formally accredited?

*Please give details briefly:*_____

8. Do you co-ordinate other curriculum areas?
(Please circle correct answer):

YES NO

a) If YES, which?

_____

9. Do you teach Geography in your school?
(Please circle correct answer):

YES NO (please go to end of questionnaire)

10. How much time (approximately) does your school allocate to the teaching of Geography per year?
(as a percentage of the annual teaching timetable)

_____

11. Which Geography topics are taught at Key Stage 1?
(taken from the NC 'Breadth of Study' statement - please indicate coverage by ticking)

- o the locality of the school
- o a contrasting locality *either* in the UK or *overseas*

(please comment on how this Geography teaching is structured e.g. weekly/ half termly/ as a topic linked to other subjects etc)

_____

_____

_____

12. Which Geography topics are taught at Key Stage 2?
(taken from the NC 'Breadth of Study' statement - please indicate coverage by ticking)

- o a locality in the UK
- o a locality in a country which is less economically well developed
- o rivers/ coasts (*delete as appropriate*)
- o settlements
- o environmental issues

(please comment on how this Geography teaching is structured e.g. weekly/ half termly/ as a topic linked to other subjects etc)

13. What do you understand by the term 'geographical enquiry'?

Please list ***4 characteristics*** *that would describe your ideal* ***enquiry-based geographical learning task/ activity***
For example, 'Field-based', 'Involves pupils in asking and answering geographical questions', 'Is supported by a range of high quality geographical resources'....etc.

1.
2.
3.
4.

14. How confident are you that you understand what 'geographical enquiry' means in practice?

(Please circle correct answer where **1** *means* **very confident**)*:*

1----------2----------3----------4----------5

15. Do you use the 'Scheme of Work' document produced by QCA?
(Please circle correct answer):

YES NO

a) If YES, to what extent does it support you in helping pupils to engage in 'geographical enquiry'?
(Please circle correct answer where **1** *means* **very helpful**)*:*

1----------2----------3----------4----------5

b) Please comment

16. Have you modified provision in Geography in response to the 'Primary Strategy'?
(Please circle correct answer):

YES NO

a) If YES, to what extent?
(Please circle correct answer where **1** *means* **significant modifications***):*

1----------2----------3----------4----------5

b) Please comment

_____

_____

Please note any additional comments in the box below

Thank you for taking the time to complete this questionnaire

Appendix 2
Letter to Primary Schools (Geography Co-ordinator)

Dear **Geography Co-ordinator**,

Research Questionnaire

Thank you for taking the time to read this.

I am a Tutor at University College Chester and am currently researching teaching and learning in Primary Geography. I am particularly interested in analysing government documentation (such as the National Curriculum, the Scheme of Work etc.) and seeking the views of teachers with regard to how they interpret such documentation. This is hopefully with a view to informing future guidance for schools, as very little research has been done in this area.

I would be extremely grateful if you could complete the enclosed questionnaire. This should only take about 10 - 15 minutes.
Please return it in the stamped-addressed envelope provided.

Very many thanks.

Best Wishes.

Wendy Garner

Senior Lecturer in Primary Geography
& Consultant to QCA

Appendix 3
Ideal Enquiry- based Learning Task Inventory

The Ideal Enquiry-based Learning Task Inventory (IELTI)
Introduction for academics/ teachers

1. Think about enquiry-based geographical tasks/ activities that you have discussed/ used, with your students/ pupils.

2. Please list 6 characteristics that would describe your *ideal* enquiry-based geographical learning task/ activity. On each line list their opposites to describe your *not ideal* enquiry-based geographical learning task/ activity. These descriptions can be words or short phrases. Please note that the opposites do not have to be literal opposites, it is how you choose to describe them that is important.

3. Please then put these characteristics into rank order by deciding which characteristic is the most important in your judgement and assigning a 1 to it in the column headed 'Rank'. Continue until you reach the least important characteristic, and assign that a 6.

4. The example below is not in any sense meant to be a 'gold standard' IELTI - it is simply intended to make the process of completing your own IELTI as clear as possible. There are no right or wrong characteristics - it is **your view** that is important.

Example IELTI:

Rank	An Ideal Enquiry-based Learning Task	A Not ideal Enquiry-based Learning Task:
6	Field-based	Classroom-based
3	Is supported by a range of high quality geographical resources	Has too few resources for pupils to be engaged in problem solving
4	Is intrinsically interesting	Is boring
2	Involves pupils in asking and answering geographical questions	Involves pupils in following a pre-determined enquiry route
5	Makes pupils think	Pupils can do it just by following instructions
1	Specifically develops pupils' critical thinking skills	Does not develop pupils' critical thinking skills

The Ideal Enquiry-based Learning Task Inventory (IELTI)

Academics' version

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1		
2		
3		
4		
5		
6		

My specialism is: *primary geography/ secondary geography* **(please delete as appropriate)**
Thank you very much

An adaptation of the Ideal Self Inventory (ISI) (Norton, Morgan & Thomas 1995; Tilley and Norton, 1998) and Ideal Distance Learning Task Inventory (IDLTI) (Garner, Norton et al. 2001).

Appendix 4
Pilot Study

Rationale for study

'Enquiry' is an accepted term used within the National Curriculum for Geography (DES, 1991; DFE 1995; DfEE, 1999) and also features within related non-statutory guidance and professional publications. The rationale behind this small study relates to a more significant study (currently being undertaken by the author) which aims to explore the relation between policy and practice with regard to the term 'enquiry' and to identify a hierarchy of definitions and interpretations of this term within the educational system.

In this article, findings will be reported from a study involving Primary and Secondary Geography lecturers from various Higher Education Institutions in the United Kingdom. An adaptation of the Ideal Self Inventory (ISI), a tool previously used within the context of psychotherapy (Norton, Morgan & Thomas 1995) and then adapted for use within educational contexts (Tilley and Norton, 1998; Garner, Norton et. al 2001), was sent to a sample of geography lecturers (in Initial Teacher Training – Primary and Secondary) of whom 17 responded. The respondents generated 160 positive and negative characteristics which describe their view of an 'Ideal Enquiry-based Learning Task'. Subsequent content analysis yielded a version of the 'Ideal Enquiry-based Learning Task' which represents the lecturers' composite view.

Findings will be discussed with particular attention to the implications for teaching, learning and professional development. Readers will be encouraged to explore the ISI methodology and to relate this to their own use of teaching techniques and enquiry methods.

Methodology

A sample of Primary and Secondary Geography lecturers in initial teacher training were asked to complete the blank 'Ideal Enquiry Based Learning Task' proforma with a view to eliciting their view of the characteristics of an 'ideal' and 'non-ideal' enquiry-based learning task (see fig. i). They were asked to 'think about enquiry-based geographical tasks/ activities that you have discussed/ used, with your students/ pupils' and to 'please list 6 characteristics that would describe your ideal enquiry-based geographical learning task/ activity. On each line list their opposites to describe your not ideal enquiry-based geographical learning task/ activity. These descriptions can be words or short phrases. Please note that the opposites do not have to be literal opposites, it is how you choose to describe them that is important'.

Responses were then analysed using the process of content analysis. This involved grouping similar responses and subsequently developing categories. Characteristics were repeatedly assigned to these approximate categories which in turn were honed, refined and merged appropriately. Characteristics could not be assigned to more than one category. The 160 characteristics were reduced to 14 (7 'ideal' and 7 'non-ideal') on the basis of this process and frequencies within categories. Subsequent inter-rater reliability tests yielded a 'level of agreement' of over 80% (see figs. iia & iib).

Figure (i) The Ideal Enquiry-based Learning Task Inventory

The Ideal Enquiry-based Learning Task Inventory (IELTI)

Academics/ teachers' version

An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:

An adaptation of the Ideal Self Inventory (ISI) (Norton, Morgan & Thomas 1995; Tilley and Norton, 1998) and Ideal Distance Learning Task Inventory (IDLTI) (Garner, Norton et al. 2001).

Figure (iia)

The initial composite view of 'ideal' and 'not ideal' characteristics of an enquiry-based learning task (1-7 high frequency responses and 8-13 very low frequency responses)

The Ideal Enquiry-based Learning Task Inventory (IELTI)

Academics' version

An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1. Involves pupils in active learning where questions are generated and researched by pupils, with increasing independence. A range of outcomes possible	Involves pupils in passive learning where questions and activities are predetermined and predominantly teacher led. Often only one predefined outcome expected
2. Activities supported by high quality resources	Resources supplied are of a low quality
3. Activities relevant and meaningful to the pupil and focused on real issues	Activities remote from pupil experience and real world issues, general and broad
4. Pupils develop thinking skills	Pupils' thinking skills not tested
5. Pupils work collaboratively where process often characterised by dialogue	Pupils work individually where process often characterised by written work
6. Pupils develop specific enquiry skills and research techniques	Insufficient opportunity to develop specific enquiry skills and research techniques
7. Activities are interesting and motivating, offering opportunities for creativity	Activities are dull, boring and routine
8. Activities matched to prior learning and range of pupil abilities	Lack of consideration of prior learning and match to pupil ability
9. Sufficient time allowance to run it's completion	Insufficient time allowance and output rushed
10. Based on systematic geography and related theory	Based on vague interdisciplinarity
11. Opportunities for pupils to explore own values and attitudes	Insufficient opportunity for pupils to explore own values and attitudes
12. Field based	Class based
13. Tasks defined by clear objectives	Task objectives ill defined

Figure (iib)

The final composite view of 'ideal' and 'non ideal' characteristics of an enquiry-based learning task

An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
Involves pupils in active learning where questions are generated and researched by pupils, with increasing independence. A range of outcomes possible	Involves pupils in passive learning where questions and activities are predetermined and predominantly teacher led. Often only one predefined outcome expected
Activities supported by high quality resources	Resources supplied are of a low quality
Activities relevant and meaningful to the pupil and focused on real issues	Activities remote from pupil experience and real world issues, general and broad
Pupils develop thinking skills	Pupils' thinking skills not tested
Pupils work collaboratively where process often characterised by dialogue	Pupils work individually where process often characterised by written work
Pupils develop specific enquiry skills and research techniques	Insufficient opportunity to develop specific enquiry skills and research techniques
Activities are interesting and motivating, offering opportunities for creativity	Activities are dull, boring and routine

Initial results and implications

The composite view (see figs iia & iib) reveals that enquiry based learning is very often equated with autonomy, thinking skills and active learning, in addition to many other generic features of good educational practice. These terms, particularly 'active learning' and 'thinking skills', are very broad in meaning and have been defined in very different ways by psychologists, educationalists and classroom practitioners.

Therefore whilst it is very interesting to develop and identify a composite view, the study does reveal the diversity of interpretation of the term 'enquiry' within the context of geography teaching. The varied and relatively non-specific understanding of the term as shown in this small study is significant given that within the statutory documentation (DFES/ QCA, 1999), enquiry is identified as one of the four key aspects of geography (SCAA, 1997) and thus it could be argued that a clear and shared view is needed, particularly within the context of teacher education.

To return to some of the issues raised earlier, given the complexity and diversity of the 'composite' view shared by this sample, clarification of what 'geographical enquiry' actually means is still required. Essentially for 'enquiry' to be a credible and useful approach within primary geography, a theoretical and empirical underpinning is needed. The views of practitioners also need to be sought, particularly within the primary school where most teachers operate as non-specialists. The impact of the 'enquiry approach' also needs to be assessed in terms of its appropriateness to primary practice and effectiveness as a pedagogical approach.

The results as presented here (see figs. iia and iib) could be used by colleagues to stimulate debate within the context of professional development and the methodology itself used to analyse the meaning of other accepted terms within education.

Another interesting area for further study would be international comparisons and connections; an exploration of how our colleagues in institutions around the world interpret terms such as 'enquiry', 'active learning' and 'thinking skills' and the degree to which such approaches actually contribute to effective teaching and learning.

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Appendix 5

Raw Data: Academics' Ideal Enquiry - based Learning Task Inventory (IELTI)

	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1	Based on asking & answering geographical questions	Random questions, no progression or sequence no opportunity for pupils to ask questions
2	Exploring topical events / issues – a 'real' question linked to pupils' lives / interests & experiences / other learning. Ideally outcome has purpose.	Enquiry unrelated to pupils' interests etc. Arbitrary task
3	Making & seeing connections e.g. phys & human Geog. Supports development of 'sense of place' & personal identity	Comprises unrelated elements
4	Wide range of differentiated resources, including visual materials & maps	Mainly written sources, little variety
5	Includes fieldwork / local issue & involves active learning	Teacher led, teacher as provider of 'answers'
6	Group tasks – involves talk & debate, group planning, doing, evaluating/reviewing (develops thinking skills)	Individual task, silent classroom

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1=	Is learner-centred *and* controlled (i.e. process and content decided by learners) and therefore has a sense of purpose in the eyes of the learners	Is teacher-centred and controlled, and therefore may not be seen as meaningful or relevant to the learners (thus leading to lower levels of motivation etc)
1=	Involves learners in making decisions about every stage of the process (asking questions, planning, investigating, evaluating)	The teacher makes most of the decisions and 'delivers' the activities to the learners

2	Is one that addresses all the elements/stages (asking questions, planning, investigating, evaluating) but not necessarily in a linear fashion	Is one that is more of an investigation than an enquiry
3	Engages learners in critical analysis of information sources, whether in the field (e.g. interviewing shoppers) or secondary sources such as photos, books, web-based materials etc	Learners accept information at face-value
4	Has a strong evaluative element – which focuses as much on evaluating the learning process (metacognition) as the outcome of the enquiry	Does not leave sufficient time for reflection and evaluation of learning during the process and at the end
5	Has a clear framework for understanding, affective as well as well as cognitive (either provided by the learners, or facilitated by the teacher, depending on prior experiences, abilities etc)	Gathers information for its own sake and does not help learners to 'make meaning'
6	Is issues-based, recognising the value of emotional learning / attitudes / perspectives etc as important elements in decision-making	Is knowledge-based and does not allow for creative responses
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	Involves pupils in raising their own question/s	Is limited by pre-determined question/s
2	Has an audience to which findings will be reported	Has no specific audience
3	Results in actions or a proposal for action	Has an indistinct end-point

4	Develops appropriate geographical and cross-curricular skills	Leads to little or no skill development
5	Involves fieldwork in the locality or "virtual" fieldwork in a distant place (using good quality resources and ICT)	Provides no scope for fieldwork
6	Provides scope for a creative response	Provides no scope for creativity or originality
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	In the field	In the classroom
2	Expert adult resource	Non-expert
3	Good quality resources, fit for purpose and enough for children to have at the point of need	Poor additional resources/not enough to support the work adequately
4	Children directly involved in primary enquiry	Teacher/expert/adult provides all the 'answers'
5	All children able to access activity at their level, including good opportunities to stretch G&T	Un differentiated – all children expected to do same activity
6	Is motivating and interesting with appropriate challenge and pace, diversity in ways of collecting and recording information	Dull and uninteresting, narrow in recording styles and approaches to learning styles – eg, filling in work sheets

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1	Based on real and relevant issue to age group and locality	Unconnected to pupil experiences or interest levels
2	Enables pupils to develop their higher order thinking skills	Learning factoids; rote learning
3	Planned within an enquiry framework from identifying an issue, generating questions, data collection through field work through to analaysising and presenting the outcomes and evaluating the process	No enquiry framework used when teacher or pupils are planning
4	Motivating starter scenario to generate enthusiasm and interest	Un connected facts and information presented to the pupils with no obvious purpose
5	Builds on previous learnt knowledge and skills	Doesn't take into account previous learning
6	Collaborative group work	No opportunity for collaborative work
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
2	Field-based	Classroom-based
3	Is supported by a range of high quality geographical resources	Has too few resources for pupils to be engaged in problem solving
1	Is developed from a child initiated investigation	Is imposed from external sources
4	Involves pupils in asking and answering geographical questions	Involves pupils in following a pre-determined enquiry route
5	Involves consideration of others views and implications	Pupils can do it just by following instructions
6	Specifically develops pupils' critical thinking skills	Relies solely upon descriptive skills

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
3	Is skills based with pupils using the knowledge of how to find answers rather that relaying upon being given tasks.	Involves the teacher spoon feeding tasks to pupils
1	Allows the pupils to think creatively, generating questions and identifying how answers could be found to those questions.	Teacher provides closed questions that pupils need to find answers to in given texts.
4	Allows pupils to work in flexible groupings or independently.	Independent with no opportunity for pupils to work with others or share their ideas
3	Includes opportunities for pupils to reflect upon their learning.	Involves solely the teacher marking work that is not reviewed by pupils
5	Uses a range of high quality primary and secondary resources both to facilitate exploration.	Is restricted in resources to what is provided by the classteacher.
2	Provides a real and relevant experience for pupils.	Is not linked to the experience of the pupils.
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	engages children, relevant to their lives	boring, irrelevant
2	involves pupils asking and answering geographical questoins	questions predetermined by teacher
3	open ended, range of possible outcomes	one answer
4	maximises opportunities to develop skills (geog and generic eg ICT)	fails to maximise these opportunities

5	maximises opportuities to appeal to more than one learning style	only one learning style catered for
6	involves fieldwork	classroom based
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
2	Promotes independent reflective thinking	Fails to engage the individuals thinking at a deeper level
1	Has a purpose which is grounded in a specific question, which the student recognises as being f value	
3	Has a number of alternative solutions, or at least alternative ways of perceiving the question.	Has only one closed answer
4	Involves collaboration and compromise	Individual task only
5	Includes identifying the nature of the problem itself. (Problem seeking) rather than just problem solving.	Problem solving where the question is assumed to be the right question to be asking.
6	Has an outcome which is valued	Has no recognisable outcome.
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	Pupils are actively engaged in 'research'	Pupils are passive learners
2	Develops thinking skills	Pupils not challenged to think about the process of enquiry or the geographical focus of the enquiry

3	Based on first-hand (in the 'field') or good quality secondary sources (maps, photos, data, etc.)	Based on 'non-geographical' sources
4	Promotes social learning	Children do not: discuss the planning, share data collection, analysis and interpretation of data and the relevance of the findings
5	The focus for the enquiry is interesting and relevant and set in a wider context	The focus for the enquiry does not fit into a planned programme, does not interest or motivate the children who fail to understand why they are doing it.
6	The enquiry leads to a deeper understanding of a geographical concept or issue	The enquiry contributes little to children's geographical education
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	Learner directs focus	Teacher directed
2	Fieldwork and resources as main sources of info	Teacher as source of all
3	Skills as important, integration of concepts, content and skills	info Factual content most important
4	Flexible & open to revision	Worksheet based, inflexible & unresponsive to pupil's interests and not subject to revision as a result of what has been learnt
5	Open ended	Closed tasks
6	Relevant to child's interests and/or experiences	Irrelevant to child's experience, can't be applied to other contexts

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1	Starts from the learners' question or questions.	Starts from the teachers' or curriculum-makers' questions.
4	Is partly field-based.	Is entirely classroom-based
3	Has a genuine audience to present findings to.	Has no audience or a contrived audience such as the teacher.
6	Has a genuine purpose such as 'writing a leaflet' which will be distributed to an audience.	Has no real purpose except to accumulate knowledge or improve NC levels.
2	Involves pupils in examining and evaluating conflicts of interest.	No examination of conflict of interest.
5	Aims to develop the learner socially, emotionally, culturally and not just intellectually.	Has an intellectual aim only.

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
1	Children identify select and prioritise the geographical topics and questions for the issue or theme of study	Geographical questions are provided for and to the children by the teacher
2	Children develop a structured approach to geographical investigation	The organisation of the enquiry is determined by the teacher
3	Teacher acts as a tutor facilitator	The teacher does not involve the children in the enquiry process but determines all aspects for them and criticises their outcomes
4	Children identify and evaluate their geographical learning and the achievements and nature of the enquiry	There is no evaluation of the learning undertaken and achieved, nor of the process or how this context can be applied in the next enquiry
5	Children prepare and provide an information report/ presentation	Children complete worksheets, text writing and graphics which are not shared or examined for their limitations and usefulness
6	Children take a critical perspective about the variety of resources they use	Children do not question validity, bias, selectivity etc. of the resources they have access to, whether fieldwork based, text or the internet

Rank	An Ideal Enquiry-based Learning Task:	A Not ideal Enquiry-based Learning Task:
6	Exploring an issue through role play/ drama	Being told about an issue
1	Fieldwork in local streets and buildings	Learning about the local area at second hand
4	Interactive group work to share ideas on a geographical topic e.g. transport problem	Not being given a chance to explore personal perspectives
5	Finding out about a geographical topic using a number of resources including ICT	Reading a prepared text that presents a single viewpoint and ignores complexities
3	Giving pupils the chance/ opportunity to construct their own enquiries – lines of investigation	Pupils have no chance at all to influence the studies they undertake
2	Devising a personal portrait of a place with photographs, words, graphics etc.	Almost impossible to do this without enquiry but it could be a prepared text I suppose
Rank	**An Ideal Enquiry-based Learning Task:**	**A Not ideal Enquiry-based Learning Task:**
1	Involves teaching children to ask more than purely **descriptive** questions, e.g. what? Where? But moves children as they get older onto the **analytical**, e.g. how? why? And the **value-laden** what ought? What should? (e.g. *'futures'* geography)	Being stuck at the descriptive level of enquiry questions
2	Should involve the integration place, theme/s and skills and	Lack of integration of these three
3	Should involve **fieldwork** and fieldwork skills	Totally classroom-based

4	Should involve older children in designing their own enquiry and enquiry process that is **relevant** and interesting to them e.g. 1. Recognise an issue for enquiry 2. Ask some relevant questions/ make statements to be investigated 3. Collect relevant data 4. Interpret and analyse data 5. present findings 6. draw conclusions 7. take action if appropriate 8. evaluate enquiry	Enquiries always teacher directed
5	Involve becoming aware, getting informed , developing understanding, developing views, doing something. As much as possible geographical enquiry should lead to children participating, getting involved, taking action. Geography is about giving the children skills to become problem-solving active citizens. Without the participation/action children can feel paralysed by the enormity of the world's problems, e.g. "there is nothing anyone can do".	Armchair enquiries that don't lead to involvement, participation, action
6	Develops critical thinking skills	Doesn't develop children's critical thinking skills

Appendix 6

Raw Data: Teachers' Questionnaire Responses

The questionnaire data was entered into an Excel spreadsheet for analysis. The spreadsheet has been reproduced here in sections to fit page size.

Number on roll:	(1) LEA?	(2) Degree Education?	(a) Y/ Geog?	(b) N/ Geog 1st degree?
150	wirral	yes	no	no
no response	warrington	yes	no	no
101	warrington	yes	no	no
243	wrexham	yes	no	no
184	warrington	yes	no	no
222	flintshire	yes	no	no
320	warrington	no	n/a	no
no response	warrington	yes	no	no
270	wirral	yes	no	no
no response	wirral	yes	yes Cert Ed	n/a
171	wirral	yes	no	no
280	wirral	yes	yes	n/a
450	wirral	yes	yes	n/a
534	wirral	yes	no	no
no response	cheshire	yes	no	no
340	wirral	yes	no	no
226	halton	yes	yes	n/a
229	cheshire	no	n/a	no
180	wirral	no	n/a	yes
375	flintshire	yes	no	no
no response	wirral	yes	yes	n/a
250	halton	yes	yes	n/a
210	warrington	yes	no	no

(4) PG quals.?	(4a) Y/ which?	(5) Reasons for co-ord. (rank order)?
no	n/a	HD/ QUALS/ INT
no	n/a	HD/ QUALS =3/ INT=3
no	n/a	HD/ QUALS =3/ INT=3
no	n/a	HD/ INT/ QUALS
no	n/a	INT only
no	n/a	HD only
no	n/a	HD/ INT/ QUALS
no	n/a	HD/ INT/ QUALS
no	n/a	HD
no	n/a	INT/QUALS/HD
no	n/a	HD/QUALS/INT
no	n/a	QUAL=1/ INT =1/ HD 3
no	n/a	HD/ INT/ QUALS
no	n/a	INT =1/ AVAILABILITY=1
no	n/a	HD/QUALS/INT
no	n/a	OTHER
no	n/a	QUAL
no	n/a	INT/HD
no	n/a	HD/ QUAL
no	n/a	HD
no	n/a	INT/QUALS/HD
no	n/a	INT/QUALS/HD
no	n/a	HD/INT/QUALS

(5a) Comments	(6) No. of years as co-ordinator?
none	6 10
none	1 5
none	1 5
none	6 10
none	1 5
none	11 20
none	1 5
I am art trained - had to fill the geography gap	1 5
just allocated it 16 years ago	11 20
none	11 20
always - humanities/ always Head's decision	1 5
none	6 10
was DT/ geog and history coord left so I asked to be geog	1 5
none	6 10
none	1 5
geog corod left and wanted easier job after 10 yrs doing maths	1 5
at present I am the geog. Co-ord because I was best qualified	1 5
none	6 10
small school/ subjects shared - my areas hist/ geog.	11 20
member of staff left	1 5
none	11 20
interest and enthusiasm most valuable/ learn from courses	6 10
none	1 5

(7) CPD?	Yes/Detail?	Yes/ Accreditation?
no	n/a	n/a
no	n/a	n/a
no	n/a	n/a
no	n/a	n/a
no	there have been no geography courses offered for at least 3 years	n/a
no	n/a	n/a
yes	one day/ Warrington LEA 2002-3	no
yes	one day/ Lancashire LEA 2004	no
no	n/a	n/a
yes	ongoing INSET provided by LEA	no
no	n/a	n/a
no	n/a	n/a
no	n/a	n/a
yes	number of 1/2, 1 day courses at WEA	no
no	n/a	n/a
no	n/a	n/a
no	not recently	n/a
no	n/a	n/a
yes	ongoing INSET provided by LEA	no
no	n/a	n/a
no	n/a	n/a
no	n/a	n/a
no	n/a	n/a

(8) Co-ord. other areas?	(8a) Which?	(9)Teach Geog. in school?
yes	music	yes
yes	history	yes
yes	literacy	no
yes	history	yes
yes	maths	yes
yes	maths/ RE	yes
yes	EYS	yes
no	n/a	yes
no	n/a	yes
yes	Mcult	yes
yes	health promoting schools/ Eco-Schools	yes
yes	history/ Eco Schools	yes
yes	history/ Eco Schools/ health promoting schools	yes
yes	history	yes
yes	music	yes
no	n/a	yes
yes	literacy	no
no	n/a	yes
yes	history	yes
no	n/a	yes
yes	history	yes
yes	pe	yes
no	n/a	yes

(10) Percentage of annual teaching timetable?	(11) Topics @KS1?
no response	sl/ cl
45hrs per term	sl
1.25 hrs per week	sl
4%	sl/ cl
8%	sl/ cl
no response	sl/ cl
5%	sl/ cl
I hour per week	sl/cl
45 mins/week	sl/cl
5%	sl/cl
no response	no response
35%	n/a
1hr/ week at least 1.5 terms per year	sl/cl
40 hours	sl
I hour per term	sl/cl
1-2 hrs per week (less for Infants)	sl/cl
no response	no response
10%	sl/cl
1 hour/ week	sl/cl
no response	sl/cl
no response	sl/cl
no response	sl/cl
6	sl

(11) Organisation of teaching @ KS1?
Katie Morag literacy / seashore science
half termly usually integrated with topic
weekly
topic based/ termly blocks/ e.g. babies +sl
we use G as part of other subjects/ block or 40 mins/ week
topic linked
for 1/2 term each term/ other half history
linked to QCA loosely/ more thematic approach linked to other subjs
as class teacher feels would benefit pupils
often topic based geog/ history unit/ taught weekly or solid unit (3 lessons a week)
no response
n/a
weekly in topic based activities for at least 1.5 terms a year
no response
not sure as in junior school
as a topic within a particular term/ also weather, journeys, map work (Croxteth)
no response
as a topic linked to other subjects
literacy linked e.g Kmorag. Half term focus ie. 6 weeks alternates with History
as set out in QCA altho do not follow exactly/ mainly weekly with each topic covering a term
half termly and topic linked to other subjects
all work is topic based and linked to the QCA
half termly blocks

(12) Topics @KS2?	(12) Organisation of teaching @KS2?
ukl/ edl/ r/s/e	half termly
ukl/ r/s/e	half termly usually integrated with topic
ukl/edl/r/s/e	half termly
n/a	n/a
ukl/ r/s/e	see previous response
n/a	n/a
ukl/edl/r/s/e	for 1/2 term each term/ other half history
ukl/edl/r/s/e	history, geog and art linked to inc. coverage/ taught weekly
ukl/edl/r/s/e	as for KS1 - could be any method/ aiming to link more with other subjects
ukl/edl/r/s/e	generally weekly but not all year groups study 3 units
no response	no response
ukl/edl/r/s/e	termly topic as a geog. Lesson/ also use ICT, art, drama
ukl/edl/r/s/e	weekly with topic/ but more structured for 1 hr week for at least 1.5 terms a year
ukl/edl/r/s/e	mostly for 1.5 terms/ weekly as a topic
ukl/edl/r/s/e	taught weekly in half term blocks/ often linked to other subjects
ukl/edl/r/s/e	weekly during the term the topic is taught
no response	no response
ukl/edl/r/s/e	as a topic linked to other subjects
n/a	n/a
ukl/edl/r/s/e	geography is taught on a weekly basis, one year group teaches as a termly topic
ukl/edl/r/s/e	one term per year group
ukl/edl/r/s/e	years 3/4 2yrcycle topic based//y56 2yrcycle geog and history alternate
edl/r/s/e	blocked 2 topics each year group done over 2.5 terms

(13) Ideal Enquiry-based Learning Task
n/a
no response
no response
ability to find out answers to geographical questions themselves
visit/ trip
no response
undertake tasks involving maps and diagrams
closely related to children's surroundings
look at evidence - primary and secondary
researching issues e.g. questionnaires
no response
investigating photos and maps
involves pupils asking/ answering about geography
use of secondary sources - stories/ photos/ videos
map work
asking and answering questions
no response
orienteering type activities
using web sites/ interactive whiteboard/ Broadband
using their own experience
asking/ answering geographical questions
would involve asking and getting children to explore
effective questioning - testing misconceptions

(13) Ideal Enquiry-based Learning Task	(13) Ideal Enquiry-based Learning Task
n/a	n/a
no response	no response
no response	no response
ability to find out answers to geographical questions themselves	topic based activities that have relevance
visit/ trip	speaker
no response	no response
undertake tasks involving maps and diagrams	use a range of equipment and secondary sources
closely related to children's surroundings	field based
look at evidence - primary and secondary	draw conclusions from above evidence
researching issues e.g. questionnaires	answering questions, posing questions
no response	no response
investigating photos and maps	field work
involves pupils asking/ answering about geography	involves research in geographical resources
use of secondary sources - stories/ photos/ videos	ask geographical questions - be curious/ have opinions
map work	cross curricular
asking and answering questions	use of good geog resources
no response	no response
orienteering type activities	pupils finding out practically
using web sites/ interactive whiteboard/ Broadband	photographs/ pictures/ books
using their own experience	teacher led questioning (open and closed)
asking/ answering geographical questions	no response
would involve asking and getting children to explore	key questions - where are we?who lives here?
effective questioning - testing misconceptions	clear guidance/ expectations

(13) Ideal Enquiry-based Learning Task	(14) Confidence 'enquiry'?
n/a'	4
no response	4
no response	4.25
plenty of resources	3
no response	3
no response	3
field based/ own observations	2
good resources for supporting tasks	2
discussion of issues	2
using a variety of sources or resources	2
no response	no response
no response	3
involves personal research or homework projects	4
communicate in ways appropriate (leaflet/ email)	5
problem solving/ question raising	4
no response	1
no response	no response
using appropriate resources	2
games	2
children posing their own questions	2
no response	3
no response	2
use of first hand and secondary resources	3

(15) Use QCA SoW?	(15a) Helpfulness with 'enquiry'?
y	3
y	3
y	3.75
n	n/a
y	2
y	2
y	1
y	4
y	3
y	2
no response	no response
y	2
y	2
y	no response
y	4
n	use LCP - 1
no response	no response
y	2
y	3
n	no response
y	no response
y	3
y	3

(15b) Comment
no response
use qca and lcp
no response
n/a
we try to base E on visits/ costs limits what we can do
we do not follow QCA ridgedly
no response
QCA not very effective as too far from c's own experiences/ support with own ideas
all units need to be adapted
no response
no response
do not use it in all areas as we teach the Caribbean not India
helps focus non-specialists
Qca used to supplement plans only
lots is topic based/ lack of resources to fully implement enquiry/ don't feel I know enough to create enquiry work
no response
no response
some are more helpful tha others
also use Folens scheme
don't use QCA but our schemes based on them
n/a
key questions/ vocab useful/ some of uppoer junior qca documents quite dull though
generally more guidance needed across staff

(16) Modify because of Primary Strategy?	(16a) Yes/ Degree of modification?
n	n/a
n	n/a
n	3.5
y	5
y	3
n	n/a
n	n/a
y	4
y	2
y	3
no response	no response
y	2
n	n/a
n	n/a
n	n/a
y	1
no response	no response
n	no response
y	3
n	n/a
no response	4
no response	no response
y	2

(16b) Comment
no response
no response
no response
no response
see Q11
no response
no response
teach geog as a link with other subjs/ teach other subjs through geog.
no response
we have to limit/ reduce time on geog but also access it thru other subjs
no response
no response
no response
I haven't seen the 'Primary Strategy'
will modify soon
In all year groups we follow the scheme and try to make practical and enquiry based
no response
attempting to be more integrated and use skill based activities rathet than knowledge
no response
no response
no response
followed guidelines - some QCA units at KS2 not very inspiring

Confidence Level: Teachers

Raw Data

Reference	Confidence Level
1.	4
2.	4
3.	4.25
4.	3
5.	3
6.	3
7.	2
8.	2
9.	2
10.	2
11.	3
12.	4
13.	5
14.	4
15.	1
16.	2
17.	2
18.	2
19.	3
20.	2
21.	3
22.	No Response
23.	No Response

Appendix 7

Summary of Content Analysis: Academics' Ideal Enquiry- based Learning Task Inventory (IELTI)

Reference	An Ideal Enquiry-based Learning Task:	A Not Ideal Enquiry-based Learning Task:	Category (first assignment)	Category (second assignment)	Inter-rater Reliability Results (1)
1.	Based on asking & answering geographical questions	Random questions, no progression or sequence no opportunity for pupils to ask questions	1	6	6
2.	Exploring topical events / issues – a 'real' question linked to pupils' lives / interests & experiences / other learning. Ideally outcome has purpose.	Enquiry unrelated to pupils' interests etc. Arbitrary task	2	1	1
3.	Making & seeing connections e.g. phys & human Geog. Supports development of 'sense of place' & personal identity	Comprises unrelated elements	3	6	**5**
4.	Wide range of differentiated resources, including visual materials & maps	Mainly written sources, little variety	4	2	2
5.	Includes fieldwork / local issue & involves active learning	Teacher led, teacher as provider of 'answers'	5	8	8
6.	Group tasks – involves talk & debate, group planning, doing, evaluating/reviewing (develops thinking skills)	Individual task, silent classroom	6	7	7
7.	Is learner-centred *and* controlled (i.e. process	Is teacher-centred and controlled, and	5	7	**6**

	and content decided by learners) and therefore has a sense of purpose in the eyes of the learners Involves learners in making decisions about every stage of the process (asking questions, planning, investigating, evaluating)	therefore may not be seen as meaningful or relevant to the learners (thus leading to lower levels of motivation etc) The teacher makes most of the decisions and 'delivers' the activities to the learners			
8.	Is one that addresses all the elements/stages (asking questions, planning, investigating, evaluating) but not necessarily in a linear fashion	Is one that is more of an investigation than an enquiry	7	3	3
9.	Engages learners in critical analysis of information sources, whether in the field (e.g. interviewing shoppers) or secondary sources such as photos, books, web-based materials etc	Learners accept information at face-value	8	3	3
10.	Has a strong evaluative element – which focuses as much on evaluating the learning process (metacognition) as the outcome of the enquiry	Does not leave sufficient time for reflection and evaluation of learning during the process and at the end	8	3	3
11.	Has a clear framework for understanding, affective as well as well as cognitive (either provided by the learners, or facilitated by the teacher, depending on prior experiences, abilities etc)	Gathers information for its own sake and does not help learners to 'make meaning'	3	5	5
12.	Is issues-based, recognising the value of emotional learning / attitudes / perspectives	Is knowledge-based and does not allow for creative responses	3	6	**5**

	etc as important elements in decision-making				
13.	Involves pupils in raising their own question/s	Is limited by pre-determined question/s	1	6	6
14.	Has an audience to which findings will be reported	Has no specific audience	2	1	1
15.	Results in actions or a proposal for action	Has an indistinct end-point	13	3	3
16.	Develops appropriate geographical and cross-curricular skills	Leads to little or no skill development	3	5	5
17.	Involves fieldwork in the locality or "virtual" fieldwork in a distant place (using good quality resources and ICT)	Provides no scope for fieldwork	9	8	8
18.	Provides scope for a creative response	Provides no scope for creativity or originality	10	6	6
19.	In the field	In the classroom	9	8	8
20.	Expert adult resource	Non-expert	11	2	**6**
21.	Good quality resources, fit for purpose and enough for children to have at the point of need	Poor additional resources/not enough to support the work adequately	4	2	2
22.	Children directly involved in primary enquiry	Teacher/expert/adult provides all the 'answers'	5	6	6
23.	All children able to access activity at their level, including good opportunities to stretch G&T	Un differentiated – all children expected to do same activity	12	4	4

24.	Is motivating and interesting with appropriate challenge and pace, diversity in ways of collecting and recording information	Dull and uninteresting, narrow in recording styles and approaches to learning styles – eg, filling in work sheets	2	1	1
25.	Based on real and relevant issue to age group and locality	Unconnected to pupil experiences or interest levels	2	1	1
26.	Enables pupils to develop their higher order thinking skills	Learning factoids; rote learning	8	3	3
27.	Planned within an enquiry framework from identifying an issue, generating questions, data collection through field work through to analaysising and presenting the outcomes and evaluating the process	No enquiry framework used when teacher or pupils are planning	7	3	3
28.	Motivating starter scenario to generate enthusiasm and interest	Un connected facts and information presented to the pupils with no obvious purpose	2	1	1
29.	Builds on previous learnt knowledge and skills	Doesn't take into account previous learning	12	4	4
30.	Collaborative group work	No opportunity for collaborative work	6	7	7
31.	Field-based	Classroom-based	9	8	8
32.	Is supported by a range of high quality geographical resources	Has too few resources for pupils to be engaged in problem solving	4	2	2

33.	Is developed from a child initiated investigation	Is imposed from external sources	1	6	6
34.	Involves pupils in asking and answering geographical questions	Involves pupils in following a pre-determined enquiry route	1	6	6
35.	Involves consideration of others views and implications	Pupils can do it just by following instructions	3	6	**5**
36.	Specifically develops pupils' critical thinking skills	Relies solely upon descriptive skills	8	3	3
37.	Is skills based with pupils using the knowledge of how to find answers rather that relaying upon being given tasks.	Involves the teacher spoon feeding tasks to pupils	5	6	6
38.	Allows the pupils to think creatively, generating questions and identifying how answers could be found to those questions.	Teacher provides closed questions that pupils need to find answers to in given texts.	5	6	6
39.	Allows pupils to work in flexible groupings or independently.	Independent with no opportunity for pupils to work with others or share their ideas	6	7	7
40.	Includes opportunities for pupils to reflect upon their learning.	Involves solely the teacher marking work that is not reviewed by pupils	8	3	3
41.	Uses a range of high quality primary and secondary resources both to facilitate exploration.	Is restricted in resources to what is provided by the classteacher.	4	2	2
42.	Provides a real and relevant experience for pupils.	Is not linked to the experience of the pupils.	2	1	**2**

43.	Engages children, relevant to their lives	Boring, irrelevant	2	1	1
44.	Involves pupils asking and answering geographical questions	Questions predetermined by teacher	1	6	**1**
45.	Open ended, range of possible outcomes	One answer	13	6	6
46.	Maximises opportunities to develop skills (geog and generic eg ICT)	Fails to maximise these opportunities	3	5	5
47.	Maximises opportuities to appeal to more than one learning style	Only one learning style catered for	6	6	6
48.	Involves fieldwork	Classroom based	9	8	8
49.	Promotes independent reflective thinking	Fails to engage the individuals thinking at a deeper level	8	3	3
50.	Has a purpose which is grounded in a specific question, which the student recognises as being of value	Nil response	2	1	1
51.	Has a number of alternative solutions, or at least alternative ways of perceiving the question.	Has only one closed answer	13	6	6
52.	Involves collaboration and compromise	Individual task only	6	7	7
53.	Includes identifying the nature of the problem itself. (Problem seeking) rather than just problem solving.	Problem solving where the question is assumed to be the right question to be asking.	10	6	**7**

54.	Has an outcome which is valued	Has no recognisable outcome.	2	1	1
55.	Pupils are actively engaged in 'research'	Pupils are passive learners	5	3	3
56.	Develops thinking skills	Pupils not challenged to think about the process of enquiry or the geographical focus of the enquiry	8	3	3
57.	Based on first-hand (in the 'field') or good quality secondary sources (maps, photos, data, etc.)	Based on 'non-geographical' sources	4	8	**2**
58.	Promotes social learning	Children do not: discuss the planning, share data collection, analysis and interpretation of data and the relevance of the findings	3	7	7
59.	The focus for the enquiry is interesting and relevant and set in a wider context	The focus for the enquiry does not fit into a planned programme, does not interest or motivate the children who fail to understand why they are doing it.	2	1	1
60.	The enquiry leads to a deeper understanding of a geographical concept or issue	The enquiry contributes little to children's geographical education	3	5	**6**
61.	Learner directs focus	Teacher directed	5	6	6
62.	Fieldwork and resources as main sources of info	Teacher as source of all	5	8	8
63.	Skills as important, integration of concepts, content and skills	info Factual content most important	3	5	5

64.	Flexible & open to revision	Worksheet based, inflexible & unresponsive to pupil's interests and not subject to revision as a result of what has been learnt	7	6	**3**
65.	Open ended	Closed tasks	13	6	6
66.	Relevant to child's interests and/or experiences	Irrelevant to child's experience, can't be applied to other contexts	2	1	1
67.	Starts from the learners' question or questions.	Starts from the teachers' or curriculum-makers' questions.	1	6	6
68.	Is partly field-based.	Is entirely classroom-based	9	8	8
69.	Has a genuine audience to present findings to.	Has no audience or a contrived audience such as the teacher.	2	1	1
70.	Has a genuine purpose such as 'writing a leaflet' which will be distributed to an audience.	Has no real purpose except to accumulate knowledge or improve NC levels.	2	1	**3**
71.	Involves pupils in examining and evaluating conflicts of interest.	No examination of conflict of interest.	3	5	**4**
72.	Aims to develop the learner socially, emotionally, culturally and not just intellectually.	Has an intellectual aim only.	3	5	5
73.	Children identify select and prioritise the geographical topics and questions for the issue or theme of study	Geographical questions are provided for and to the children by the teacher	1	6	**7**

74.	Children develop a structured approach to geographical investigation	The organisation of the enquiry is determined by the teacher	7	3	3
75.	Teacher acts as a tutor facilitator	The teacher does not involve the children in the enquiry process but determines all aspects for them and criticises their outcomes	5	6	6
76.	Children identify and evaluate their geographical learning and the achievements and nature of the enquiry	There is no evaluation of the learning undertaken and achieved, nor of the process or how this context can be applied in the next enquiry	8	3	3
77.	Children prepare and provide an information report/ presentation	Children complete worksheets, text writing and graphics which are not shared or examined for their limitations and usefulness	2	1	**3**
78.	Children take a critical perspective about the variety of resources they use	Children do not question validity, bias, selectivity etc. of the resources they have access to, whether fieldwork based, text or the internet	8	3	3
79.	Exploring an issue through role play/ drama	Being told about an issue	5	6	6
80.	Fieldwork in local streets and buildings	Learning about the local area at second hand	9	8	8

81.	Interactive group work to share ideas on a geographical topic e.g. transport problem	Not being given a chance to explore personal perspectives	6	7	7
82.	Finding out about a geographical topic using a number of resources including ICT	Reading a prepared text that presents a single viewpoint and ignores complexities	4	2	2
83.	Giving pupils the chance/ opportunity to construct their own enquiries – lines of investigation	Pupils have no chance at all to influence the studies they undertake	7	6	6
84.	Devising a personal portrait of a place with photographs, words, graphics etc.	Almost impossible to do this without enquiry but it could be a prepared text I suppose	7	2	2
85.	Involves teaching children to ask more than purely **descriptive** questions, e.g. what? Where? But moves children as they get older onto the **analytical**, e.g. how? why? And the **value-laden** what ought? What should? (e.g. *'futures'* geography)	Being stuck at the descriptive level of enquiry questions	8	3	3
86.	Should involve the integration place, theme/s and skills and	Lack of integration of these three	3	5	5
87.	Should involve **fieldwork** and fieldwork skills	Totally classroom-based	9	8	8

88.	Should involve older children in designing their own enquiry and enquiry process that is **relevant** and interesting to them e.g. 1. Recognise an issue for enquiry 2. Ask some relevant questions/ make statements to be investigated 3. Collect relevant data 4. Interpret and analyse data 5. present findings 6. draw conclusions 7. take action if appropriate 8. evaluate enquiry	Enquiries always teacher directed	7	6	**3**
89.	Involve becoming aware, getting informed , developing understanding, developing views, doing something. As much as possible geographical enquiry should lead to children participating, getting involved, taking action. Geography is about giving the children skills to become problem-solving active citizens. Without the participation/action children can feel paralysed by the enormity of the world's problems, e.g. "there is nothing anyone can do".	Armchair enquiries that don't lead to involvement, participation, action	13	3	3
90.	Develops critical thinking skills	Doesn't develop children's critical thinking skills	8	3	3

Appendix 8

Summary of Content Analysis: Teachers' Ideal Enquiry - based Learning Task Inventory (IELTI)

Reference	An Ideal Enquiry-based Learning Task	Category (assignment)
1.	**n/a**	0
2.	**No response**	0
3.	**No response**	0
4.	First hand experience of a locality	8
5.	Research	3
6.	**No response**	0
7.	Ask and respond to questions about places and topics	6
8.	Children asking and answering geog. questions	6
9.	Primary evidence based field work	8
10.	Fieldwork driven	8
11.	**No response**	0
12.	Asking questions	6
13.	Field based	8
14.	Field based – visiting area studying	8
15.	Field based	8

16.	Field based	8
17.	**No response**	0
18.	Centre based activities	8
19.	Field work around school and local area	8
20.	An active approach through practical activities e.g. field based	8
21.	Field based	8
22.	Field based	8
23.	Using correct geographical terms	5
24.	**n/a**	0
25.	**No response**	0
26.	**No response**	0
27.	Ability to find out answers to geographical questions themselves	6
28.	Visit/ trip	8
29.	**No response**	0
30.	Undertake tasks involving maps and diagrams	5
31.	Closely related to children's surroundings	1
32.	Look at evidence - primary and secondary	3

33.	Researching issues e.g. questionnaires	3
34.	**No response**	0
35.	Investigating photos and maps	5
36.	Involves pupils asking/ answering about geography	6
37.	Use of secondary sources - stories/ photos/ videos	2
38.	Map work	5
39.	Asking and answering questions	6
40.	**No response**	0
41.	Orienteering type activities	8
42.	Using web sites/ interactive whiteboard/ Broadband	2
43.	Using their own experience	1
44.	Asking/ answering geographical questions	6
45.	Would involve asking and getting children to explore	6
46.	Effective questioning - testing misconceptions	9
47.	**n/a**	0
48.	**No response**	0
49.	**No response**	0
50.	Topic based activities that have relevance	1
51.	Speaker	2

52.	**No response**	0
53.	Use a range of equipment and secondary sources	2
54.	Field-based	8
55.	Draw conclusions from evidence	3
56.	Answering questions/ posing questions	6
57.	**No response**	0
58.	Field work	8
59.	Involves research in geographical resources	3
60.	Ask geographical questions – be curious/ have opinions	6
61.	Cross curricular	5
62.	Use of good geographical resources	2
63.	**No response**	0
64.	Pupils finding out practically	3
65.	Photographs/ pictures/ books	2
66.	Teacher led questioning (open and closed)	9
67.	**No response**	0
68.	Key questions – where are we? Who lives here?	6
69.	Clear guidance/ expectations	4
70.	n/ a	0

71.	**No response**	0
72.	**No response**	0
73.	Plenty of resources	2
74.	**No response**	0
75.	**No response**	0
76.	Field based/ own observations	8
77.	Good resources for supporting tasks	2
78.	Discussion of issues	7
79.	Using a variety of sources or resources	2
80.	**No response**	0
81.	**No response**	0
82.	Involves personal research or homework projects	3
83.	Communicate in ways appropriate (leaflet/ e-mail)	5
84.	Problem solving/ question raising	6
85.	**No response**	0
86.	**No response**	0
87.	Using appropriate resources	2
88.	Games	1

89.	Children posing their own questions	6
90.	**No response**	0
91.	**No response**	0
92.	Use of first hand and secondary resources	2

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